



# Full Circle

THE INDEPENDENT MAGAZINE FOR THE UBUNTU LINUX COMMUNITY

ISSUE #76 - August 2013



BOOK REVIEW



## SIMPLE SECURITY SYSTEM WEBCAM + DROPBOX = MOBILE SECURITY

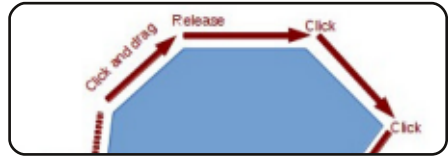
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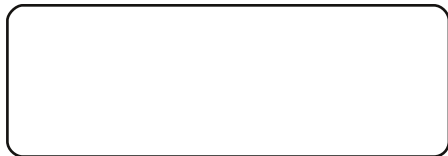
## HowTo



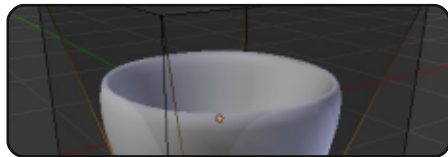
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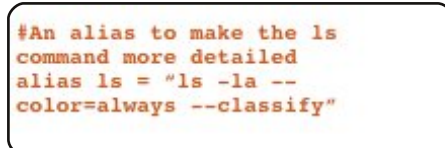
## Graphics



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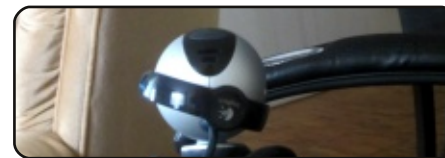
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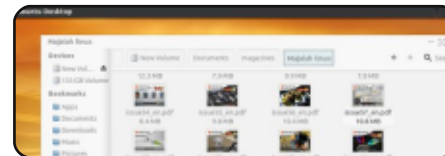
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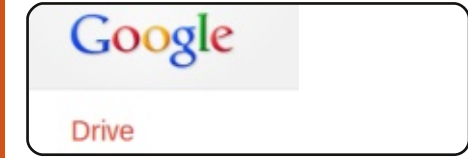
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## WELCOME TO ANOTHER ISSUE OF FULL CIRCLE!

We return to our regular scheduled programming with Python, LibreOffice, Blender and Inkscape. Joining them is a rather hefty piece called Spring Integration. It's all a bit over my head so I'll let you read it.

Have many of you signed up for an Ubuntu Edge? I haven't, but then I refuse to pay almost £400 for a mobile phone – no matter who makes it. As I write this, it looks like their plan is doomed to fail – with them not even reaching the halfway mark. Again, while I think it's a great phone, and an ambitious plan, they're asking for a lot of money. If you're scratching your head and wondering what this Ubuntu Edge thing is, then have a read of this month's Ask The New Guy.

Many moons ago, I wrote a two-part piece on using ZoneMinder as a CCTV system. This month, Charles has stripped that to the bone and is using a webcam and Dropbox to keep an eye on things. It's a great idea for an absolutely minimalistic security system.

Oh, and in case you hadn't noticed, Mr. Robin Catling has come up with the goods again in the form of Inkscape Special Edition - Volumes 1 & 2. As ever, it's on the Full Circle site – ready for your consumption. And he's courting controversy with his My Opinion piece on how he's jumping ship by using Debian.

**All the best, and keep in touch!**

*Ronnie*

[ronnie@fullcirclemagazine.org](mailto:ronnie@fullcirclemagazine.org)



This magazine was created using :



## Full Circle Podcast

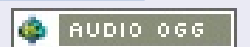
Released monthly, each episode covers all the latest Ubuntu news, opinions, reviews, interviews and listener feedback. The Side-Pod is a new addition, it's an extra (irregular) short-form podcast which is intended to be a branch of the main podcast. It's somewhere to put all the general technology and non-Ubuntu stuff that doesn't fit in the main podcast.

### Hosts:

- Les Pounder
- Tony Hughes
- Jon Chamberlain
- Oliver Clark



<http://fullcirclemagazine.org>



Download



## 13.10 (SAUCY SALAMANDER) ALPHA 2 AVAILABLE

Jonathan Riddell announces the second Alpha of the Saucy Salamander (to become 13.10) has now been released for testers and early adopters and features images for Kubuntu, Lubuntu, Ubuntu GNOME, UbuntuKylin and Xubuntu. He lists the release details for Ubuntu flavors that have participated in the release and provides links to the downloadable images.  
<http://fridge.ubuntu.com/2013/07/25/13-10-saucy-salamander-alpha-2-available/>

## UBUNTU FORUMS ARE BACK UP AND A POST MORTEM

James Troup announces that the Ubuntu Forums are now back up and running. He writes a "post mortem" of the breach and the actions taken by the Canonical IS team. James details what happened, what the attacker could and could not access, what the IS

team has done in response to this break, and what questions remain. He concludes the post mortem with an apology for the security breach, the data leak, and downtime.

<http://blog.canonical.com/2013/07/30/ubuntu-forums-are-back-up-and-a-post-mortem/>

## ANNOUNCING THE 2013 UBUNTU APP SHOWDOWN CONTEST!

Michael Hall announces the second Ubuntu App Showdown and writes: *"Contestants will have six weeks to build and publish their apps using the new Ubuntu SDK and Ubuntu Touch platform. Both original apps and ported apps, native and HTML 5, will qualify for this competition."*

*The winners of this contest will each receive an LG Nexus 4 phone running Ubuntu Touch with their application pre-installed."*

<http://developer.ubuntu.com/2013/08/announcing-the-2013-ubuntu-app-showdown-contest/>

[app-showdown-contest/](#)

More at  
<http://developer.ubuntu.com/showdown/>

## UBUNTU EDGE CROWDFUNDING DRIVE HAS MISSED ITS TARGET

The 30-day crowdfunding campaign to raise \$32 million for the Ubuntu Edge smartphone has failed to reach its target, and this has led to another series of posts from news sites and blogs alike. The following are a sampling collected by our editors:

Ubuntu Edge thank you -  
<http://insights.ubuntu.com/news/ubuntu-edge-thank-you/>

Jono Bacon: Onwards and Upwards -  
<http://www.jonobacon.org/2013/08/22/onwards-and-upwards-2/>

Ubuntu Edge crowdfunding drive misses target -  
[http://www.bbc.co.uk/news/techn](http://www.bbc.co.uk/news/technology-23793457)

[ology-23793457](#)

Ubuntu Edge: founder says failure isn't the end of the dream -  
<http://www.theguardian.com/technology/2013/aug/22/ubuntu-edge-founder-failure-canonical>

Ubuntu Edge Campaign Ends, Fails to Reach \$32m Target -  
<http://www.omgubuntu.co.uk/2013/08/ubuntu-edge-fails-to-meet-multi-million-dollar-goal-wont-be-made>

Ubuntu Edge fails to reach \$32,000,000, yet proves itself a massive success -  
<http://iloveubuntu.net/ubuntu-edge-fails-reach-32000000-yet-proves-itself-massive-success>

Ubuntu Edge: A grand experiment for the future of computing does not constitute a failure -  
<http://www.zdnet.com/ubuntu-edge-a-grand-experiment-for-the-future-of-computing-does-not-constitute-a-failure-7000019762/>

The failed Ubuntu Edge: when a good idea just isn't enough -



<http://money.cnn.com/2013/08/22/technology/mobile/ubuntu-edge-crowdfunding/index.html>

Ubuntu Edge Falls Short of Goal -  
<http://blogs.wsj.com/digits/2013/08/22/ubuntu-edge-falls-short-of-goal/>

Ubuntu smartphone axed after crowdfunding drive fails -  
<http://www.cnbc.com/id/100979890>

Ubuntu Edge is dead, long live Ubuntu phones -  
<http://arstechnica.com/information-technology/2013/08/ubuntu-edge-is-dead-long-live-ubuntu-phones/>

## UBUNTU DEVELOPER SUMMIT AUGUST 27-29TH

The next mid-cycle virtual Ubuntu Developer Summit is scheduled for August 27-29th from 2pm-8pm UTC!

Check out the details, participation information, and schedule at:  
<http://uds.ubuntu.com/>

## UBUNTU 12.04.3 LTS

### RELEASED

The Ubuntu team is pleased to announce the release of Ubuntu 12.04.3 LTS (Long-Term Support) for its Desktop, Server, Cloud, and Core products, as well as other flavors of Ubuntu with long-term support."

Release details, including links to changes and instructions for updating at:  
<https://lists.ubuntu.com/archives/ubuntu-announce/2013-August/000175.html>

## WELCOME NEW MEMBERS AND DEVELOPERS

Results for the 22:00 UTC Membership Board Meeting for August 1st, 2013:  
**Nekhelesh Ramanathan**  
(<https://wiki.ubuntu.com/Nekhelesh%20Ramanathan> | <https://launchpad.net/~nik90>)  
**Carlos Ney Pastor**  
(<https://wiki.ubuntu.com/CarlosNeyPastor> | <https://launchpad.net/~carlosneypastor>)  
<https://lists.ubuntu.com/archives/ubuntu-news-team/2013-August/001846.html>

## MANY THANKS TO THE UBUNTU NEWS TEAM FOR THEIR CONTRIBUTION THIS MONTH.

News this month comes from:

<https://wiki.ubuntu.com/UbuntuWeeklyNewsletter/Issue327>  
<https://wiki.ubuntu.com/UbuntuWeeklyNewsletter/Issue328>  
<https://wiki.ubuntu.com/UbuntuWeeklyNewsletter/Issue329>  
<https://wiki.ubuntu.com/UbuntuWeeklyNewsletter/Issue330>  
<https://wiki.ubuntu.com/UbuntuWeeklyNewsletter/Issue331>





Over the last couple of issues, I asked for input from the readers on commands that they find useful, and a short description of what they do. Now, I have nearly three A4 pages of commands in the Google Doc I created for this. To anyone who contributed – thank you! There were a surprising number of commands (or variations) that I hadn't ever come across before. If anyone would like recognition on the title page of the PDF, you can either email me at [lswest34+cli-cookbook@gmail.com](mailto:lswest34+cli-cookbook@gmail.com), or open an issue on the GitHub (or just fork the repository!). For the actual article this month, I will briefly explain how to set up and use LaTeX on Ubuntu, for anyone who wishes to contribute to the PDF (using LaTeX), but isn't yet comfortable with LaTeX.

First off, the Cookbook is now located on GitHub, here: <https://github.com/lswest/cli-cookbook>

It's a public repository, so anyone who wants to contribute

needs only to fork the repository, make those changes, and then send me a pull request. I will reserve the right to veto the inclusion of any commands if they seem to me to be either unnecessary duplicates of existing commands, or else are purely malicious (by this I mean commands that will result in loss of data, without any feasible security usage). For those of you not comfortable with git (or LaTeX), and without the inclination to learn, you can suggest changes and updates using the issue tracker on the repository.

## INSTALLING L<sup>A</sup>T<sub>E</sub>X

The basic LaTeX installation is supplied through texlive, but a full installation is supplied through texlive-full. Either can be installed with apt-get, as seen below:

```
sudo apt-get install texlive
```

or

```
sudo apt-get install texlive-full
```

## INSTALLING THE IDE

I recommend using an IDE when working with LaTeX for the first time, though you can, of course, compile .tex documents using the command-line. However, the IDE makes figuring out shortcuts and commands much easier.

My preferred IDE is Texmaker, which can be found in the official repository. You can install it with

```
sudo apt-get install texmaker
```

If your version of Ubuntu (or your preferred distribution) doesn't offer it officially, you can find it here: <http://www.xm1math.net/texmaker/download.html#linux>. As with all things in Linux, there are more choices than just Texmaker, but it will be what I base my explanations on.

## INSTALL EXTRA PACKAGES

I used a few extra packages to fancy up the Cookbook (with links and code formatting). The extra

packages are: fancyvrb and hyperref. Everything else should be included in a typical LaTeX installation. These packages are contained in texlive-latex-recommended and texlive-latex-base. If you installed just texlive instead of the full installation, you will most likely need to install these separately.

## FORK THE GITHUB REPOSITORY

For this you need a github account, and have git installed. On my repository, you should see a button that reads "fork". By clicking this you create a repository on your account that's a copy of mine. The second step is to clone the fork (the repository linked to your account). To do so, you can type the following into a terminal:

```
git clone
https://github.com/username/cli-cookbook.git
```

Replace username with your username. Alternatively, you can

# COMMAND & CONQUER

simply copy the HTTPS clone URL off the GitHub page (of your forked repository).

This will create a folder called cli-cookbook and fill it with the files you need. Once that's done, open up the .tex file in Texmaker.

## EDITING THE FILE

Usually when creating a file, you'll need to create the preamble (`\usepackage`, `\documentclass`, `\begin{document}`, etc.). However, since you're working off my file, that's all been taken care of.

If you want to add a new section (say, for example, you want to add a section for photo editing commands), you would type the following:

```
\section{Name}
```

The Name is then the header you'd like it to have (i.e. Photo Editing). If you want to split it up into sub sections, the command is: `\subsection{}`, and `\subsubsection{}` creates, surprisingly enough, a subsection to a subsection. If you plan to refer back to this section later, you'll need to assign it a

label. At the end, it could look like this:

```
[...]
\section{Photo Editing}
\subsection{Using Photon to
create albums}
\label{photon}
\subsection{Organizing
Albums}
As seen in
\hyperref[photon]{\ref*{photo
n}}
[...]
```

This will create a section called Photo Editing, and two subsections called Using Photon to create albums, and Organizing Albums. The `\hyperref` statement will replace that section of code with the section number of the Photon subsection (i.e. 13.1). Clicking on the link will take you to the page where that section appears.

## ADDING CODE

I made this step slightly more complicated than it needs to be, in order to get the best result. You need to encompass your code like so:

```
\begin{Verbatim}[commandchars
=\\\{\}]
// Code goes here
\end{Verbatim}
```

The Verbatim environment won't wrap text, so you'll need to manually keep an eye on the length of the code once the PDF is compiled. If you have multiple commands after each other, I place a blank line between each step. If you stick to my formatting system, you'll also want to mark the unchanging parts of a command with a red color. Any user input I leave black. So it would look like this:

```
\begin{Verbatim}[commandchars
=\\\{\}]
\codeHighlight{//unchanging
code} //user input
\codeHighlight{//more
unchanging code}
\end{Verbatim}
```

As you can imagine, this will result in `//unchanging code` `//user input` `//more unchanging code`. Logically, you'll want to swap out the text for what you want to say.

## COMPILING THE PDF

Once you've made your changes and are ready to compile the PDF, press the blue arrow next to "Quick Build" in the top bar of Texmaker. If you want to do it by hand, you can run this command:

```
pdflatex cli-cookbook.tex
```

If any errors crop up, you'll need to read the error information to find the correct section of the file and see what could be wrong. I find the most common issue is a lack/overabundance of braces.

## RETURN THE CHANGES TO ORIGINAL REPOSITORY

First, open a terminal and change directory to your local copy of the repository.

```
cd ~/cli-cookbook/
```

Now, you need to add the newly added/changed files:

```
git add -A
```

Then you need to commit the changes

```
git commit -m "Update
message" -a
```

# COMMAND & CONQUER

Replace the “Update message” section with a brief summary of what you added. Keep quotes around the message!

```
git push origin master
```

This pushes the changes back to your copy of my repository. If you rename the branches, you'll need to know what you've changed the origin and master names to. By default, this command should work.

Now to actually send a pull request to the original repository:

- Visit your repository on the github page.
- Click “compare and review” (the green icon with two arrows forming a loop).
- Choose the correct repository and branch (lswest:master and username:master, for example).
- Review your changes.
- Click on “Click to create a pull request for this comparison”.
- Enter a title and description.

- Click “Send pull request”.

As of that point, the ball is now in my court and I need to review the proposed change and merge it or close it.

If this article has whetted your appetite on LaTeX, let me know and I will return to this topic another time. Same with git and github – if you want more on that, let me know! Any other questions, comments or suggestions can be addressed to me at [lswest34+fcu@gmail.com](mailto:lswest34+fcu@gmail.com).



**Lucas** has learned all he knows from repeatedly breaking his system, then having no other option but to discover how to fix it. You can email Lucas at: [lswest34@gmail.com](mailto:lswest34@gmail.com).



**When:** September 13, 14 & 15

**Where:** Greater Columbus Convention Center, Columbus, Ohio

**Keynotes:** Robyn Bergeron, Fedora  
Marshall Kirk McKusick, FreeBSD  
Mark Spencer, Digium  
Jon “maddog” Hall

**Other Info:** OLF - one day of professional training for system administrators by companies you know  
Saturday Expo  
Friday Birds of Feathers sessions  
...AND MORE

 **Ohio LinuxFest 2013**  
[ohiolinux.org](http://ohiolinux.org)





Usually, my articles are fairly long. However, due to some medical issues, this will be a fairly short article (in the grand scheme of things) this month. However, we will push through and continue our series on the media manager program.

One of the things our program will do for us is let us know if we have any missing episodes from any given series in the database. Here's the scenario. We have a series, we'll call it "That 80's Show", that ran for three seasons. In season 2, there were 15 episodes. However, we have only 13 of them in our library. How do we find which episodes are missing – programmatically?

The simplest way is to use lists and sets. We have already used lists in a number of the articles over the last four years, but Sets are a new data type to this series, so we'll examine them for a while. According to the "official documentation" for Python (docs.python.org), here is the definition of a set:

*"A set is an unordered collection with no duplicate elements. Basic uses include membership testing and eliminating duplicate entries. Set objects also support mathematical operations like union, intersection, difference, and symmetric difference."*

I'll continue to use the example from the documentation page to illustrate the process.

```
>>> Basket =
['apple', 'orange', 'apple', 'pear', 'orange', 'banana']
>>> fruit = set(basket)
>>> fruit
set(['orange', 'pear', 'apple', 'banana'])
```

Notice that in the original list that was assigned to the basket variable, apple and orange were put in twice, but, when we assigned it to a set, the duplicates were discarded. Now, to use the set that we just created, we can check to see if an item of fruit (or something else) is in the set. We can use the "in" operator.

```
>>> 'orange' in fruit
True
>>> 'kiwi' in fruit
False
>>>
```

That's pretty simple and, hopefully, you are beginning to see where all this is going. Let's say we have a shopping list that has a bunch of fruit in it, and, as we go through the store, we want to check what we are missing – basically the items in the shopping list but not in our basket. We can start like this.

```
>>> shoppinglist =
['orange', 'apple', 'pear', 'banana', 'kiwi', 'grapes']
>>> basket =
['apple', 'kiwi', 'banana']
>>> s1 = set(shoppinglist)
>>> b = set(basket)
>>> s1-b
set(['orange', 'pear', 'grapes'])
>>>
```

We create our two lists, shoppinglist for what we need and basket for what we have. We assign each to a set and then use the set difference operator (the minus sign) to give us the items that are in the shopping list but not in the basket.

Now, using the same logic, we will create a routine (next page, bottom left) that will deal with our missing episodes. We will call our routine "FindMissing" and pass it two variables. The first is an integer that is set to the number of episodes in that season and the second is a list containing the episode numbers that we have for that season.

The routine, when you run it, prints out [5, 8, 15], which is correct. Now let's look at the code. The first line creates a set called EpisodesNeeded using a list of integers created using the range function. We need to give the range function the start value and end value. We add 1 to the range high value to give us the correct list of values from 1 to 15.



Remember the range function is actually 0 based, so when we give it 16 (expected (15) + 1), the actual list that range creates is 0 to 15. We tell the range function to start at 1, so even though the range is 0 to 15 which is 16 values, we want 15 starting at 1.

Next we create a set from the list that is passed into our routine, which contains the episode numbers that we actually have.

Now we can create a list using the set difference operator on the two sets. We do this so we can sort it with the list.sort() method. You can certainly return the list if you wish, but in this iteration of the routine, we'll just print it out.

Well, that's all the time in the chair in front of the computer that

my body can stand, so I'll leave you for this month, wondering how we are going to use this in our media manager.

Have a good month and see you soon.



**Greg Walters** is owner of RainyDay Solutions, LLC, a consulting company in Aurora, Colorado, and has been programming since 1972. He enjoys cooking, hiking, music, and spending time with his family. His website is [www.thedesignedgeek.net](http://www.thedesignedgeek.net).

```
def FindMissing(expected, have) :  
    #=====   
    # 'expected' is the number of episodes we should have  
    # 'have' is a list of episodes that we do have  
    # returns a sorted list of missing episode numbers  
    #=====   
    EpisodesNeeded = set(range(1, expected+1))  
    EpisodesHave = set(have)  
    StillNeed = list(EpisodesNeeded - EpisodesHave)  
    StillNeed.sort()  
    print StillNeed  
  
FindMissing(15, [1,2,3,4,6,7,9,10,11,12,13,14])
```

## PYTHON SPECIAL EDITIONS:



<http://fullcirclemagazine.org/issue-py01/>



<http://fullcirclemagazine.org/issue-py02/>



<http://fullcirclemagazine.org/python-special-edition-issue-three/>



<http://fullcirclemagazine.org/python-special-edition-volume-four/>



<http://fullcirclemagazine.org/python-special-edition-volume-five/>



<http://fullcirclemagazine.org/python-special-edition-volume-six/>



# HOW-TO

Written by Elmer Perry

## LibreOffice Pt29: Polygons, Arcs & Curves

As I mentioned last time, the building blocks I owned as a child were the result of my father's woodworking. Not every block was perfectly proportioned into neat geometric shapes. Sometimes, they were oddly shaped, or, as wood often is, shaped by splitting along the grain line rather than being cut by the saw. Some had curved patterns where their opposites were used to trim a chair or cabinet. I didn't discard these irregular shapes but embraced them. Not everything in our world is created from straight lines, ellipses, and circles.

With this in mind, we continue our look into LibreOffice Draw by learning how to create polygons, arcs, and curves. A polygon is a plane object with at least three straight lines and angles. In geometric terms squares, rectangles, and triangles are types of polygons. For our purposes, we will discuss polygons with more than four sides. An arc, in Draw, is a partial circle or oval. You can make them filled or empty. A curve is a bent line. We will look at two

methods for creating curves, the curve tool itself and the Bezier method.

### DRAWING POLYGONS

As I said, a polygon is an object with multiple sides. In Draw, you have four polygon tools. Two enclosed and filled polygon tools, and two open and unfilled polygon tools. The unfilled polygon tools are good for making a series of lines. For both types, you have a free-form version and a version restricted to angles that are multiples of 45 degrees.

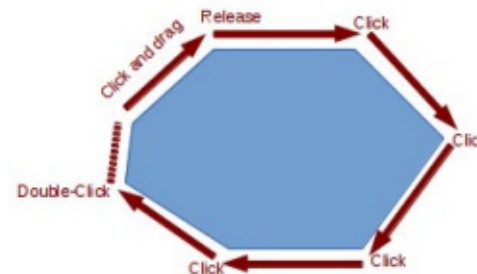


Curves Polygons

To create a polygon, select one of the polygon tools from the Lines extended toolbar. Click and drag to create the start point of the first line. When you release the mouse button, the end point of the first

line is created. Move the mouse to the position where you want the end point for the next line and click. Continue until you have created all the lines for your polygon. Double-click on the last point to end the polygon. If you are using one of the filled polygon tools, the end point of the last line will automatically connect to the start point of the first line, enclosing the polygon.

If you use one of the filled polygon tools, Draw fills the



polygon with the currently selected fill color and sets the lines to the currently selected line color. You can change these using the Line and Fill toolbar or the color bar.

### ADD CIRCLES AND OVALS

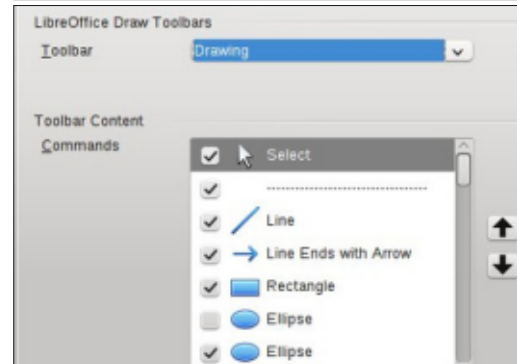
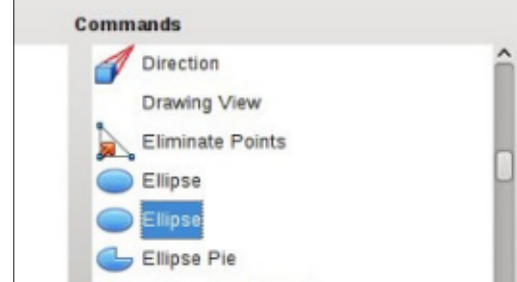
### TOOLBAR

For quick access to the arcs and segments tools, we need to add the Circles and Ovals toolbar to the Drawing toolbar. Right-click the Drawing toolbar and select Customize Toolbar. This opens the Customize dialog. Click the Add button. Select Drawing under the Category list. In the Commands list, find the Ellipse tools – there are two. You want the one with the description "Using Customize toolbar, you can add the Ellipse icon which opens the Circles and Ovals toolbar." Click the Add button. Click Close to close the selection dialog.

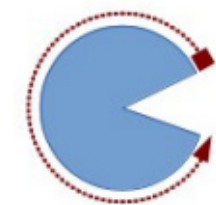
Using the up and down arrows, move the new icon to where you want it on the toolbar. I placed mine below the Ellipse tool. We don't really need the Ellipse tool any longer as it is included in the Circles and Ovals toolbar. Uncheck the Ellipse tool. Click the OK button, and you should see the toolbar is now on your Drawing toolbar.



category and then the command. Then drag the command in the Customize dialog.



## DRAWING ARCS OR SEGMENTS

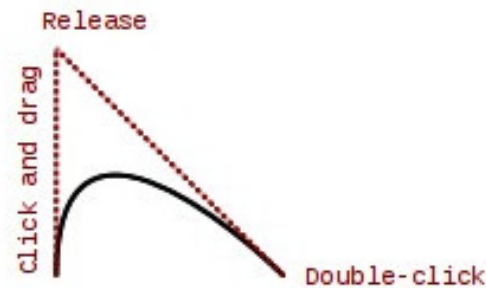


To draw an arc or segment, select one of the tools from the Circles and Ovals toolbar you just added. Click and drag to create a containing circle or oval. Release the mouse button. Click in the circle or oval where you want the arc or segment to begin. Move the mouse around the circle or oval to create the arc or segment. Click a

second time to create the end point for the arc or segment. The status bar will show you the angle from center of the points as you move around the circle or oval. This can help you create accurate and precise arcs and segments.

## DRAWING CURVES

A curve is a bent line rather than a segment of a circle or oval. To draw a curve, select the curve tool from the line toolbar. Click on the start point and drag to draw a line. Release the mouse button at the peak point for your curve. Move the mouse to bend the line to the point where you want the curve to end. Double-click to complete the curve.



## BEZIER CURVES

A Bezier curve is a smooth curve with a start point, an end

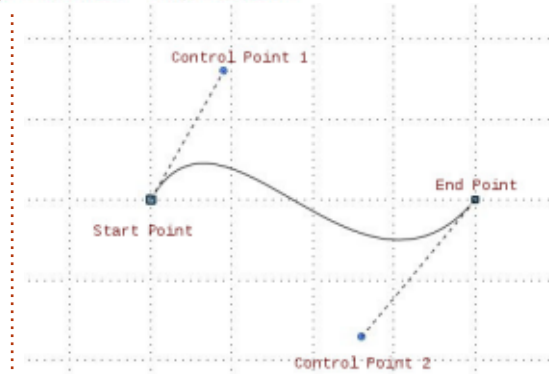


### Smooth Transition

point, and two control points. The mathematics behind the Bezier curve is beyond the scope of this article, but you don't need to understand the math in order to draw one.

To draw a Bezier curve, select the curve tool from the lines toolbar. Click at the start point, drag to the end point and double-click. Click on the Points tool on the Drawing toolbar (F8 on the keyboard), and the Edit Points toolbar is displayed. Select either the start or end point (the start point is the larger square). Select the Smooth or Symmetric Transition tool from the Edit Points toolbar. A dashed line and circle will appear indicating the control point for that point. Move the control point to create the curve for that point. Repeat these steps for the other point.

### Symmetric Transition



circles, the creators of Draw gave us more tools for creating objects. A polygon can create an object with more than four sides. Arcs and segments gives us parts and segments of a circle or ellipse. Curves give us the ability to bend a line into different shapes. With these extra tools in hand, Draw lets you create more advanced images for your documents.



**Elmer Perry's** history of working, and programming, computers involves an Apple ][E, adding some Amiga, a generous helping of DOS and Windows, a dash of Unix, and blend well with Linux and Ubuntu.

## CONCLUSION

Since not all things are created from straight lines, ellipses, and





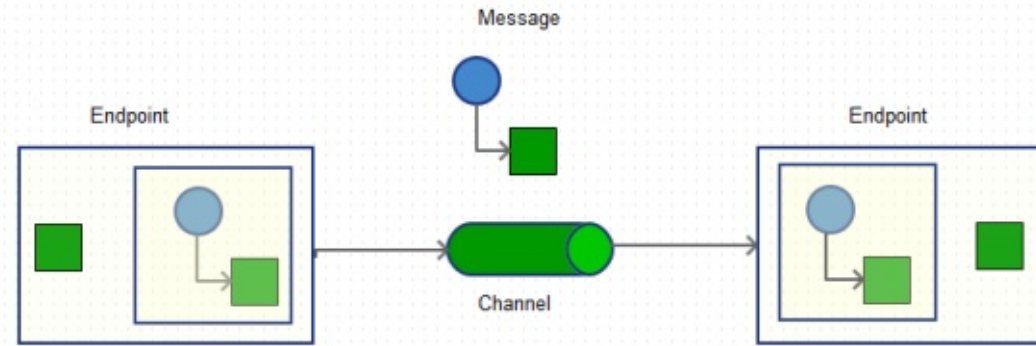
# HOW-TO

Written by Oleg Tikhonov

# Spring Integration

Some time ago, I began a new job in a big corporation. My first task was to reimplement / reimport their C# tcp client to Java. Existing convertors sucked, so I did it manually. After a week or so, the new Java tcp client and server simulator were written and waiting for further use. Having met the client's requirements, we found that Java's implementation lacked important features such as failover and auto-reconnection. Adding such functionality required us to add some untested code, which might be unable to handle the business logic. One of our guys said, Aha, what if...? We can replace the Java implementation with another one, for instance - Spring Integration. The rest of us smiled, thinking what the heck? Anyway, he is a good chap, trying to use the best technologies available. We got the green light to do research and learn something exciting. To simplify our requirements, I am going to discuss a simulator (aka server) and a client.

Before delving deeper, let me



explain what Spring Integration is intended for. As their site suggests: "it provides an extension of the Spring programming model to support the well-known Enterprise Integration Patterns". Rephrasing, to design good enterprise applications one could use messaging (more precisely asynchronous messaging) that enables diverse applications to be integrated with each other – without nightmares or pain. A wise guy named Martin Fowler has written a famous book: "Enterprise Integration Patterns". Folks from Spring probably one day decided to materialize a theory into practice. Very pragmatic approach, isn't it? Later, you will see how wonderful it is for regular tasks. The main concept of SI is:

Endpoint, Channel and Message.

Endpoint is a component which actually does something with a message. A message is a container consisting of header and payload. The header contains data that's relevant to the messaging system where the payload contains the actual data. Channel connects two or more endpoints, it's similar to Unix pipes. Two endpoints can exchange messages if they're connected through a channel. Pretty easy, isn't it? The following diagram shows this.

The next step to our crash course will be defining the requirements. I would say, we need a server (tcp) and tcp client. We will write a simple application that

will exchange a couple of messages with each other.

An important thing with SI is a configuration file which contains all the necessary components we're going to use. Here is the "server" part of the configuration. Simplifying a model and SI lifecycle, Spring creates objects that are defined in the configuration xml. More generally, such a concept is called declarative programming. You define a business object in the xml, and a framework generates appropriate classes for you, and injects and initializes dependencies. The mantra says: you should be concentrated only on the business and not on the implementation.

Let's define a part of the configuration xml (next page, top left), the server part:

<http://pastebin.com/6AHQWPse>

Important things are: A factory (tcp-connection-factory) - creates tcp server using a byte array length serializer. A Serializer is needed for "packaging" our message in some



```
<int-ip:tcp-connection-factory id="tcpServerFactory"
                                type="server"
                                port="23234"
                                single-use="false"
                                serializer="byteArrayLenSerializer"
                                deserializer="byteArrayLenSerializer"
/>

<int-ip:tcp-inbound-channel-adapter channel="serverIn"
                                    connection-factory="tcpServerFactory"/>
<int-ip:tcp-outbound-channel-adapter channel="serverOut"
                                    connection-factory="tcpServerFactory"/>
```

way or to encode it in order to transmit it over a wire. On the other hand, a Deserializer is needed for “unpackaging” our message or to decode it. Spring Integration has two factories – one for the client and another for the server. The difference is the Type [server or client]. A Port listens for incoming messages. An IP address is not mentioned here because a server runs as a localhost.

We also defined two channels: serverIn (for incoming messages) and serverOut (for outgoing messages). So that our server can send and receive messages, we define inbound and outbound adapters which are associated with the factory and channels. In our case they define the endpoints. So, when a message arrives, something should take care of it.

This responsibility requires a service, i.e. file sender service. If it accepts a message, then it will send a file in the background, line by line, to the client. Basically, when a server starts, it listens for incoming messages. However, only specific messages will be accepted, and, when accepted, then the server sends a file line-by-line. If an error occurs, it's routed to the error channel. It's done using interceptor.

I would say a couple of words about the SI lifecycle. Spring framework has two “main” packages:

org.springframework.beans and org.springframework.context that build up the core utility of the dependency injection of the component. The org.springframework.beans.factory.BeanFactory interface provides basic lifecycle methods (start and stop) for bean initialization/destruction. The org.springframework.context.ApplicationContext offers AOP integration, message resource handling, and even more.

Our server is ready... I mean, completely ready. To run the example, follow the below steps:

```
CommandLinePropertySource clps = processProperties(args);
/* Spring Integration context used to get desirable beans. */
AbstractApplicationContext context = new ClassPathXmlApplicationContext(new String[]
{"server-config.xml"}, false);
context.getEnvironment().getPropertySources().addFirst(clps);
context.refresh();
context.registerShutdownHook();
```

```
cd /tcpserver

mvn clean install

mvn dependency:copy-
dependencies

mvn exec:java
-Dexec.mainClass="org.example
.tcpserver.ServerRunner"
-Dexec.args="--
file="/file_to_be_sent.txt"
```

Our main class expresses as shown in the box below.

The source code can be found here  
<http://pastebin.com/6PMpWTFX>

Also we define a file-send service. This is shown on the next page, top left. The code is at:  
<http://pastebin.com/icHRdQS3>

Next, denote a business runner. That code is shown on the next page, bottom left. The code can be seen at:  
<http://pastebin.com/LZRdZ3Tg>

Finally, for the server, write an

```
String key = new String(appropriateData, "UTF-8");
LOG.info("got.message" + " [" + key + "]");
/* If message accepted */
if (key.contains(SEARCH_KEY)) {
    LogReader lr = new LogReader(sender, msg);
    lr.setPath2File(getFile().getAbsolutePath());
    es.execute(lr);
}
```

```
public void handleRequestMessage(byte[] payload) {
    LOG.debug("Server got an error " + new String(payload));
}
```

error handler which logs the errors which is shown above. Code is at:

<http://pastebin.com/2EQvbVR8>

At this point, we're done with our server.

Now, let's define a tcp client which connects to the server, sends an accept message, and gets a file sent from the server.

Our configuration file looks as follows:

<http://pastebin.com/eqquzq5q>

```
/* Creates an input stream to be read. */
fstream = new FileInputStream(getPath2File());
/* Wraps an input stream in order to be able reading of a whole line */
DataInputStream in = new DataInputStream(fstream);
BufferedReader br = new BufferedReader(new InputStreamReader(in));
while ((line = br.readLine()) != null) {
    command = line;
    sendAndLog(timeToWait);
}
```

Here's how to run a client:  
Open a new terminal:

```
cd /tcpclient

mvn clean install

mvn dependency:copy-dependencies

mvn exec:java
-Dexec.mainClass="org.example
.tcpclient.ClientTcp"
```

Almost the same logic applies here. Have a look. A main class has the lines shown in the code on the next page, top left.

In addition, define a client service:

```
void send(String txt);
```

Next, a message handler:

```
<!-- Wraps a service with two reply-request channels. -->
<int:gateway id="client"
    service-interface="org.example.tcpclient.TcpClientService"
    default-reply-channel="replyChannel"
    default-request-channel="requestChannel"
    default-reply-timeout="1000"
    default-request-timeout="1000">

</int:gateway>

<!-- Request channel -->
<int:channel id="requestChannel">
    <int:queue capacity="10" />
</int:channel>

<!-- Direct channel used for reply. -->
<int:channel id="replyChannel" />
```

```
public void handle(byte[] s)
{
    String ss = new String(s);

    LOG.info("r:" + ss);
}
```

```
/* Spring Integration context used to get desirable beans. */
AbstractApplicationContext context = new ClassPathXmlApplicationContext(
    new String[] { "client-config.xml" }, false);
context.refresh();
context.registerShutdownHook();

TcpClientService service = context.getBean("client", TcpClientService.class);
service.send("GIMMY");
```

And the last one is an interceptor, which will inform your application about: i. Message sent; ii. A connection closed; iii. A new connection added.

That's it!

To play with the code, see here: [http://www.4shared.com/zip/eF4q7l0k/spring\\_integration\\_example.html](http://www.4shared.com/zip/eF4q7l0k/spring_integration_example.html).

## Prerequisites:

- Java 1.6 or above;
- Maven 3 or above;
- Desire to learn something new and thrilling;

## Pros:

- A lot of features
- Tested
- Good and friendly community
- If you have questions, the people reply really quickly
- There are tons of examples
- API is easy and comprehensive

## Cons:

- Takes time to learn and understand how to work with it.
- If you get problems, sometime it is difficult to debug it.



**Oleg Tikhonov**, B.Sc in computer science and mathematics. Senior Software Engineer, member of Apache Tika, tech enthusiast, open source evangelist, Java OCR developer and Galaxy S4 hacker.

```
public void send(Message<?> message) throws Exception {
    super.send(message);
    LOG.debug("Sent message [" + new String((byte[]) message.getPayload()) + "]");
}

public void close() {
    super.close();
    LOG.debug("Closed connection");
}

public void addNewConnection(TcpConnection connection) {
    super.addNewConnection(connection);
    LOG.debug("Added new connection" + connection.getHostName() + ":" +
        connection.getPort());
}
```



The Ubuntu Podcast covers all the latest news and issues facing Ubuntu Linux users and Free Software fans in general. The show appeals to the newest user and the oldest coder. Our discussions cover the development of Ubuntu but aren't overly technical. We are lucky enough to have some great guests on the show, telling us first hand about the latest exciting developments they are working on, in a way that we can all understand! We also talk about the Ubuntu community and what it gets up to.

The show is presented by members of the UK's Ubuntu Linux community. Because it is covered by the Ubuntu Code of Conduct it is suitable for all.

The show is broadcast live every fortnight on a Tuesday evening (British time) and is available for download the following day.

[podcast.ubuntu-uk.org](http://podcast.ubuntu-uk.org)





# HOW-TO

Written by Nicholas Kopakakis

## Blender: Part 7

After a month off, we are back together to explore modifiers. One of my favorites is subdivision surface!

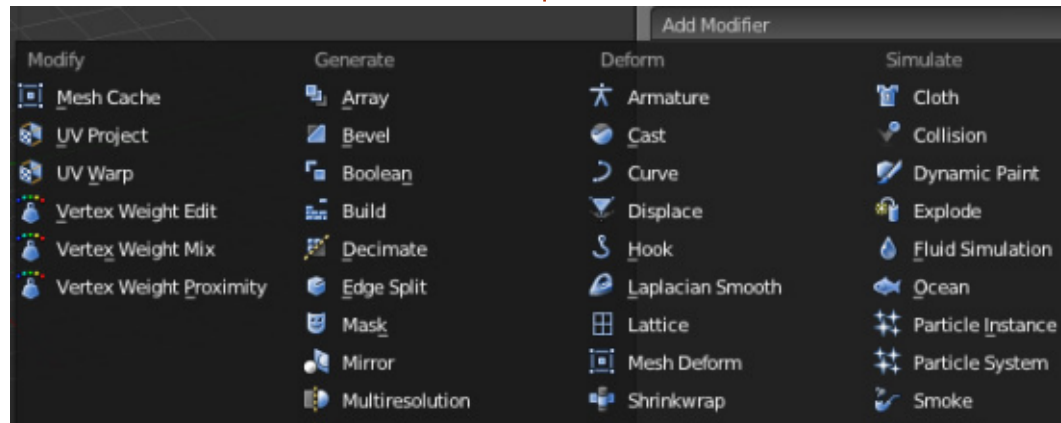
**Tip:** Modifiers are automatic operations that work with how an object looks and renders but without changing the actual geometry of your object.

Subdivision Surface (Subsurf in short) is a method of subdividing the faces of a mesh to give a smooth appearance, to enable modeling of complex smooth surfaces with simple, low-vertex meshes (source: [wiki.blender.org](http://wiki.blender.org)).

Open a new project in blender and select (if not already) the cube.

Now, let's look to the modifiers tab (shown below) under the properties window.

Notice a little wrench. This is the symbol of modifiers in blender.



Press with your left mouse button the wrench icon and then press the "Add modifier" button.

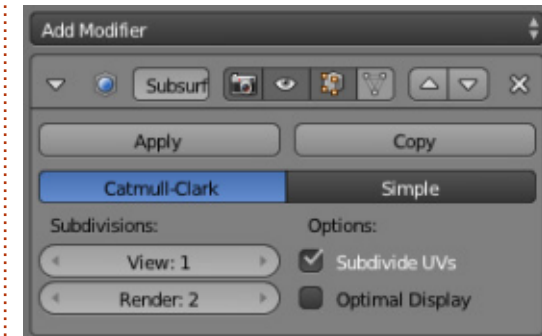
A large window appears with all the available modifiers in blender. For now we will stick with the Subdivision Surface (Subsurf from now on). Locate it (highlighted in the image above) and select it to add this modifier to your cube.

Your cube changes to a 24-faces shape! But if you render your image, you will get a 96-faces object... Weird! Let see why this is happening.

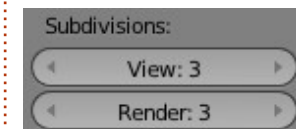
When you add the Subsurf modifier to your cube by default the modifier subdivides the cube faces (6 faces) by 4, giving you a new shape with 24 faces. You can control how many times to subdivide your object's faces under Subdivisions section as shown in the image below. The "View:1" indicates that you subdivide your object one time.

There is another control button under Subdivisions section to change the subdivisions when you render your image (Render:2). That's why in the 3D view window you have a 24-faces shape (subdivided one time), but, when you rendered it, you had a  $6 \times 4 \times 4 = 96$ -faces shape (subdivided

two times). Press the right arrow to increase the View subdivisions to 2. Now what you see is what you render.



Increase the View and the Render subdivisions by one. Now, under Subdivisions you should have 3 subdivisions for View and for Render:

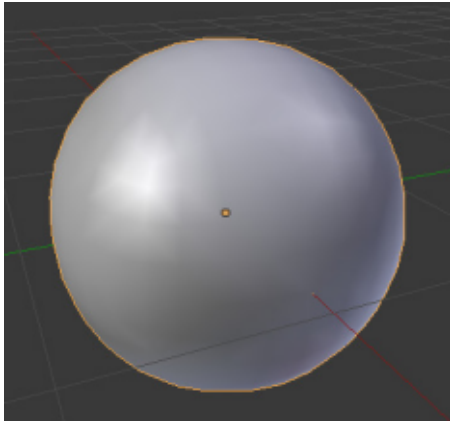


On the left of your 3D view window, under object tools (shortcut T for show/hide), smooth your cube's shading

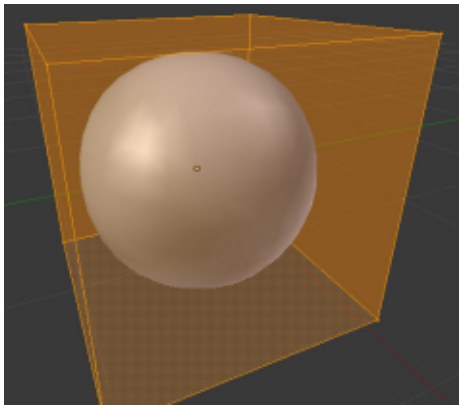


## HOWTO - BLENDER: PART 7

Your "cube" now has to look something like this:



The secret of the power that Subsurf has is revealed when you press the TAB key to enter the edit



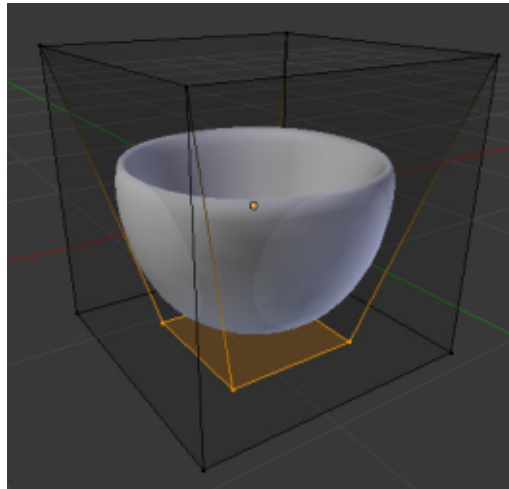
mode

You can see the sphere that we created with the Subsurf, and your original shape, the cube. You cannot edit the sphere (remember that your actual object is the cube) but you can edit the cube.

Select the top face of your cube and press E key to extrude and Enter key to confirm the extrusion. Scale it down to 50% by pressing the S key and 0.5.

Move the extruded face down by 2 units (Press G key, then Z key to lock the movement to the Z-axis and then press -2 to move it down).

You created a highly detailed pot!

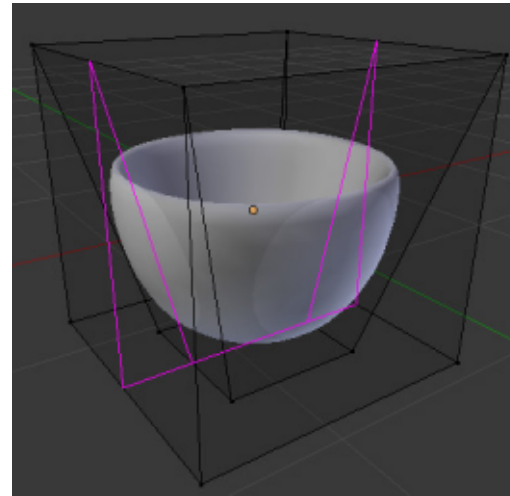


By editing the cube, dynamically you edit the sphere in an organic way. Without the Subsurf you'd need a lot of time and effort to create this pot.

Another critical tool to use with Subsurf is the loop cut.

**Tip:** Loop Cut or Loop Subdivide (shortcut Ctrl-R) splits a loop of faces by inserting a new edge loop intersecting the chosen edge (source: wiki.blender.org)

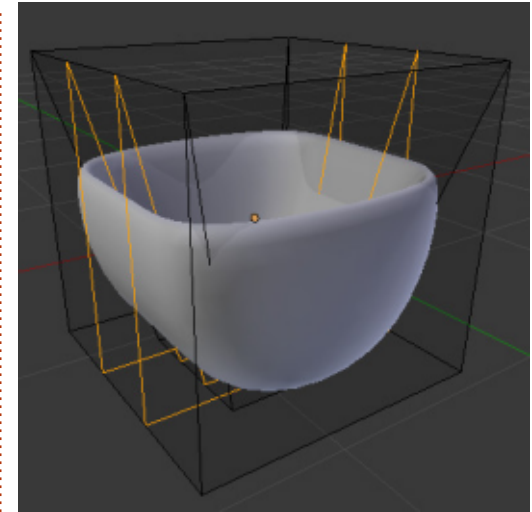
Deselect all by pressing the A key, and then press Ctrl-R. Hover your mouse over the cube faces and you will notice a purple line "cutting" the edges as shown to the image below:



Press 2 or scroll your mouse wheel to add 2 loop cuts. Press enter to confirm.

After that, you have 2 yellow edge loops selected and by moving your mouse you can slide them freely. Press the right mouse button to place them to the center

of your edge (default position).

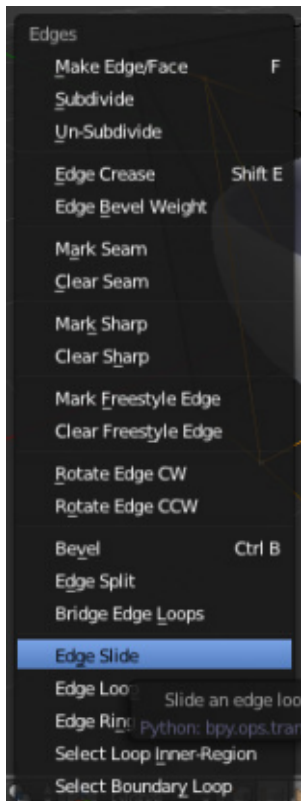


Press A key to deselect everything.

Now, to select one of the two edge loop cuts that we just created, we have to use the shortcut Shift-Alt-Right Mouse Button

**Tip:** The actual shortcut for Loop Cut Select is Alt-RMB but under linux it conflicts with the functions that are assigned by the system to the alt key.

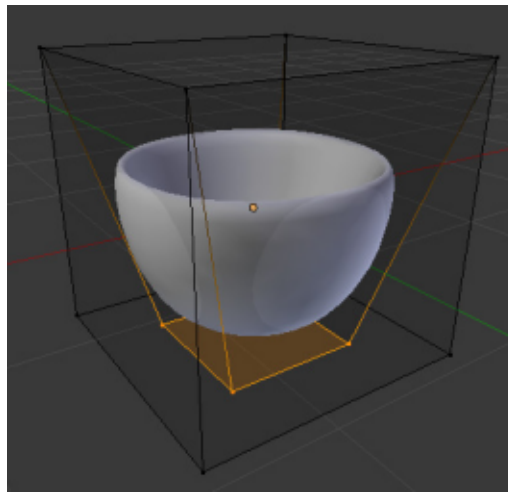
With the leftmost edge loop selected, press Ctrl-E to open the edge special menu, and select edge slide as shown in the image on the next page.



You can slide the edge loop by moving your mouse or by entering directly the value of the movement (for example -0.8). Deselect all by pressing the A key, and select the other edge loop. Slide it by 0.8 units.

Create another two edge loop cuts to the other side of your cube (check image above right)

Select and deselect anything you like. Grab a simple vertex and move it around to see what is



happening to your shape. Select two vertices and scale them up or down. While in the edit mode, add a new shape, for example a plane, and see what is going on.

Next month we will continue our journey with Subsurf, and we will try to create something. Please send me your suggestions or questions at [blender5d@gmail.com](mailto:blender5d@gmail.com)



**Nicholas** lives and works in Greece. He has worked for a post-production house for several years and migrated to Ubuntu because "it renders faster." You can email him at: [blender5d@gmail.com](mailto:blender5d@gmail.com)

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<http://fullcirclemagazine.org/inkscape-special-edition-volume-two/>



# HOW-TO

Written by Mark Crutch

## Inkscape - Part 16

A common reason for importing bitmap images into Inkscape is to convert them to a vector format. This can be done using an automatic tracing process, or by manually tracing the image. I'll cover the automatic process in a future instalment, but for now let's concentrate on the manual approach.

Manually tracing an image is exactly what it sounds like. There's no magic involved, it's simply a case of drawing on top of your bitmap in order to re-create the image using vector objects. It can be a time consuming and tedious process, but, for some images, it's the only practical way to achieve a satisfactory result.

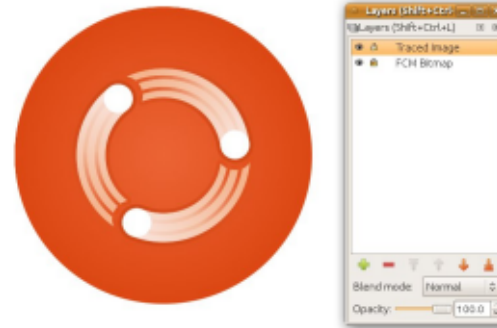
Having linked or embedded your bitmap and scaled it to a sensible size, the first step is to lock it. This will prevent you accidentally moving it as you draw over the top, and can be done in a couple of ways. The best approach is simply to lock the layer that the image is in, using the Layers dialog or the status bar, as described in

part 9 of this series. You can also lock an individual object from the Object Properties dialog, which you can access via the right-click context menu, the Object menu, or by pressing Ctrl-Shift-O. The problem is that once you've locked an object you can no longer select it in order to unlock it. The solution is to use the Object > Unlock All menu entry.

For the rest of this article, I'll assume the more sensible approach of locking the layer. Of course you'll now have to create a second layer on which to actually draw. The obvious option is to place your drawing layer above your image layer and then start creating objects. Let's try manually tracing the FCM logo using this approach. If you want to follow along, you can find the image at <http://www.peppertop.com/fc/>

First drag the image into the Inkscape window, and choose to link it – there's no point embedding it as it will only be in the file temporarily and will be removed once we've finished

tracing. Then lock the layer, and create a new one for tracing.



Trying to draw the large background circle immediately presents a few problems. The first is simply that it's very difficult to draw, by eye, a circle of the right dimensions and in the right location. Using the ellipse tool you can force a circle by holding the Control key, but you also need to start and finish at the right coordinates. It would be a whole lot easier if there were some guides to show us where to click.

Inkscape conforms to the conventions of most graphics applications when it comes to creating guides – you simply have to drag them out of the rulers. If you want a horizontal guideline,

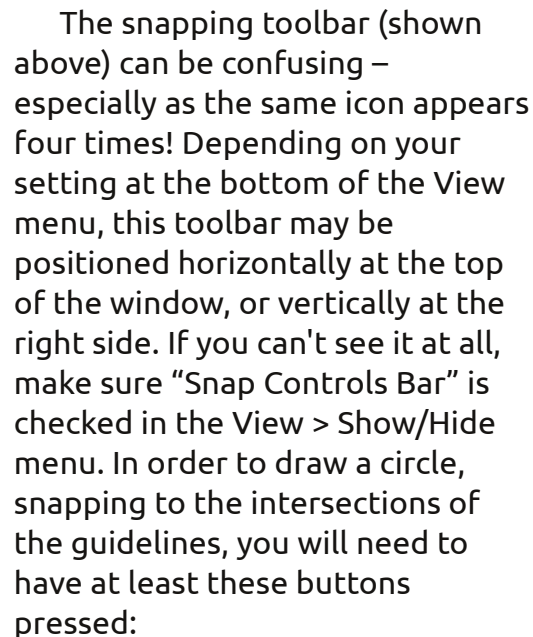
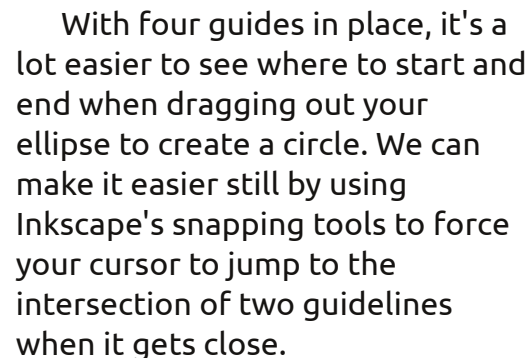
click and hold inside the ruler at the top of the drawing area and drag downwards, releasing the mouse button to place your guide. Similarly you can drag a vertical guide out of the ruler at the left. If you drag from either ruler, close to the top-left corner, you'll create an angled guide at 45°.

Did you drop your guide at the wrong location? Using the Selection tool you can drag the guide somewhere else, or hold down Shift while dragging to change the angle – hold Control as well if you want to constrain it to the standard rotation angles that are set in the Inkscape Preferences. If you have trouble targeting the thin guideline, you'll find a slightly easier target in the form of a small round handle on the guide at the point where you released the mouse when you first dragged it out of the ruler. This handle is also used as the center when you rotate a guide.

With the Selection tool still active, you can double-click on the line or handle to bring up a dialog

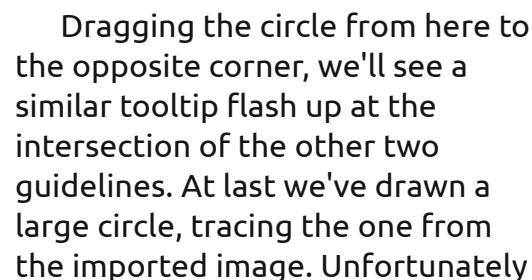


to let you precisely set the location and angle of the guide. You can use absolute coordinates, or enter an offset relative to its current position by checking the “Relative Change” box. This dialog can also be used to change the guide's color, or to delete it completely – although a faster way to do that is simply to place the mouse pointer over the guide and press the Delete key.



circle, the start and end points are treated as handles.

You'll also notice that the last icon is enabled. This tells Inkscape to snap to guidelines. The three enabled buttons on the toolbar therefore simply mean “snapping is enabled – snap handles to guides”. Selecting the Ellipse tool and moving the cursor close to the intersection of the guides now will briefly display a small, faint tooltip, telling us that it's snapped the “Handle to guide intersection”.



it's obscuring the bitmap, making it impossible to trace anything else. It's probably also the wrong color, but we'll come back to that later.

The most obvious way to stop the circle obscuring the image is simply to move it out of the way. It's the approach I tend to use, as there's less fixing up to do afterwards – I just draw each element, then shift it to the side before moving onto the next one. By holding Shift and using the cursor keys to move the object I can ensure that it moves by the same amount, regardless of the zoom level I'm working at. So if it takes 10 presses of the cursor key to move the circle out of the way, so long as I use 10 presses for every other part that I trace they should all end up in the right position, relative to one another.

Another approach is to make your new circle disappear – at least temporarily. By creating a new layer or sub-layer for each object you draw, you can show and hide individual parts of your traced image. This method works well for a few objects, but can become

unwieldy when you're tracing something complex. You may also need to move all the objects back to a single layer afterwards, depending on what you want to do with your finished tracing.

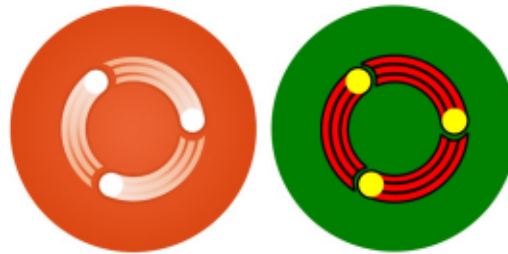
Rather than making objects completely disappear you can make them translucent. The Opacity pop-up on the status bar (right-click on the "O:" spinbox) is a fast way to do this – or you could reduce the opacity of the whole drawing layer in the Layers dialog. You'll have to remember to set objects back to their full opacity after you've finished, and even at 25% opacity this approach can sometimes obscure the fine details of the image you're trying to trace.

A final method that's quite common amongst comic artists is to put the imported image layer above the drawing layer, but with reduced opacity. Because the image layer is locked your drawing operations take place on the layer below, so the traced image never obscures the bitmap you're tracing. You can change the opacity of the bitmap layer at any time, to make it easier to see fine details, but because the drawing layer is fully opaque there's no

fixing up to do afterwards.

Try all these approaches to see which method you prefer – and don't rule out the possibility of mixing different methods, even when tracing a single image.

After tracing each element of the bitmap this is the end result. You can barely tell which version is mine, and which is the original...



If you're particularly observant, you might have noticed that the colors in my version don't quite match those in the original image. In fact the colors in my version don't even look good together, creating a clashing design compared with the more subtle combinations of the source. This was actually deliberate – I find it much easier when tracing parts which have to lay on top of each other to give them garish and contrasting colors. It makes it more obvious when something is missing or needs to be moved above or

below another object, and can help you to keep track of which parts you've traced and which you have yet to work on.

The next task, therefore, is to restore the original colors. Inkscape provides a "dropper" tool for this which is enabled via the "eye dropper" icon on the toolbar, or by pressing F7 or "d".



Before activating the tool you should first select the object(s) that you wish to color. In this case we'll start with the large green circle in the background. Having selected your target object, you can activate the dropper via the icon or keyboard shortcut. Now you simply have to click on any point in your Inkscape drawing – whether on a vector object, an imported bitmap, or even the background – and your selected object will be filled with the color of the pixel you clicked on.

Sometimes you don't want to adopt the color of a specific point, but rather an average of the colors in a small area. This is often the case with JPEG images, where lossy compression can lead to individual pixels being quite

different from the overall impression of color your eye perceives. Rather than just clicking with the color picker, you can click and drag in order to define a circle. Your selected object is filled with an average of all the pixel colors within the circle.

If you need to set the stroke, rather than the fill, of your selected object, you can use the same click or click-and-drag technique, but holding the Shift key. Holding down Alt will fill your object with the inverse of the selected color, whilst holding Shift and Alt will do the same for the stroke. To round out the dropper's tricks, if you press Ctrl-C while the tool is selected, the color of the pixel it's hovering over will be copied to the clipboard as an 8-digit hexadecimal number (RGB and Alpha).

Do also pay attention to the tool control bar when the dropper is selected. There are only two buttons up there which are used to determine whether the alpha level should be included when picking a color, and when assigning that picked color to an object. They have no effect if you're picking an opaque color, but, when dealing

with translucent objects, they can change the results considerably. Usually I leave them both enabled, but, if your dropper seems to be giving you the wrong results, it might be worth experimenting with them.

With the dropper used to pick suitable flat colors our traced design is now a lot closer to the original.

The final step to matching the



original is to try to reproduce the gradients. Bear in mind when tracing bitmaps that SVG (and therefore Inkscape) supports only linear and radial gradients, so some seemingly simple images and logos can be difficult to trace if they use other gradient types.

Reproducing a gradient is similar to reproducing a flat color: we'll still use the dropper tool to copy the color from one part of our drawing to another. The difference, however, is that instead of using it to set a single fill or

stroke color, we'll use it to set the color of each stop on the gradient. In this case the gradients simply have a start and an end stop, but there's no reason why you couldn't also reproduce gradients with several stops.

Select the object you want to modify and give it a gradient on the fill or stroke, as necessary. At this point it's more important to have the right number of gradient stops rather than worrying about the colors, so you might want to choose something garish once again. Switch to the gradient tool, if it's not already active, by using the icon on the toolbar or by pressing Ctrl-F1 or "g". Now you can drag the gradient stops into the correct positions. At this stage those garish colors can make it look like we've taken a step backwards.



With the gradient tool still active, click on one of the gradient stop handles in order to select it (it should change to a blue color). Now select the dropper tool, and you can pick colors from the drawing just as you

did previously, except this time they're assigned to the gradient stop rather than the whole object. With the dropper tool still active, you can click on another gradient stop to select it – you don't need to switch back to the gradient tool each time – and then choose its color from the drawing. Repeat as necessary until all your gradient stops are colored.

After setting a few gradients and picking the colors for their end stops from the original bitmap image, we've finally got a traced version in all its vectorized glory.



Because we started with a fairly high resolution bitmap, the difference only really shows up if you zoom in.



The last step, of course, is to delete the bitmap layer, and with it the source image. At this stage you may want to move all your objects onto a single layer, if you need to, and perhaps group them.

Although this article has nominally been about tracing bitmap images, the information about guides and the dropper tool is applicable to Inkscape in general, even if you use only vector objects. Next time, we'll continue with the same subterfuge – continuing to look at tracing bitmaps, but sneakily introducing more general tools in the process.



**Mark's** Inkscape created webcomic, 'Monsters, Inked' is now available to buy as a book from <http://www.peppertop.com/shop/>



# HOW-TO

Written by Ronnie Tucker

# Write For Full Circle Magazine

## GUIDELINES

The single rule for an article is that **it must somehow be linked to Ubuntu or one of the many derivatives of Ubuntu (Kubuntu, Xubuntu, Lubuntu, etc).**

## RULES

• There is no word limit for articles, but be advised that long articles may be split across several issues.

• For advice, please refer to the **Official Full Circle Style Guide:**  
<http://url.fullcirclemagazine.org/75d471>

• Write your article in whichever software you choose, I would recommend LibreOffice, but most importantly - **PLEASE SPELL AND GRAMMAR CHECK IT!**

• In your article, please indicate where you would like a particular image to be placed by indicating the image name in a new paragraph or by embedding the image in the ODT (Open Office)

document.

• Images should be JPG, no wider than 800 pixels, and use low compression.

• Do not use tables or any type of **bold** or *italic* formatting.

If you are writing a review, please follow these guidelines :

When you are ready to submit your article please email it to:  
[articles@fullcirclemagazine.org](mailto:articles@fullcirclemagazine.org)

## TRANSLATIONS

If you would like to translate Full Circle into your native language please send an email to [ronnie@fullcirclemagazine.org](mailto:ronnie@fullcirclemagazine.org) and we will either put you in touch with an existing team, or give you access to the raw text to translate from. With a completed PDF, you will be able to upload your file to the main Full Circle site.

## REVIEWS

### GAMES/APPLICATIONS

When reviewing games/applications please state clearly:

- title of the game
- who makes the game
- is it free, or a paid download?
- where to get it from (give download/homepage URL)
- is it Linux native, or did you use Wine?
- your marks out of five
- a summary with positive and negative points

### HARDWARE

When reviewing hardware please state clearly:

- make and model of the hardware
- what category would you put this hardware into?
- any glitches that you may have had while using the hardware?
- easy to get the hardware working in Linux?
- did you have to use Windows drivers?
- marks out of five
- a summary with positive and negative points

**You don't need to be an expert to write an article - write about the games, applications and hardware that you use every day.**







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SpiderOak offers a different approach to online backup by combining a suite of services into one consolidated tool - free online backup, synchronization, sharing, remote access, and storage. This difference is further measured in our zero-knowledge privacy policy - the first one ever employed in this setting. Our flexible design allows you to handle data from any operating system (Mac, Windows and Linux) or location (external drives, network volumes, USB keys, etc...) using just one centralized account.

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# ASK THE NEW GUY

Written by Copil Yáñez

If you have a simple question, and Linux is confusing enough that you think “image file” refers to your cat-playing-piano photo, contact me at [copil.yanez@gmail.com](mailto:copil.yanez@gmail.com).

Today’s question is:

**Q: I’ve been hearing a lot about the Ubuntu Edge. Is that something that can help me with my golf game?**

A: No, the Ubuntu Edge isn’t something you get when you chug a can of Linux-fortified energy drink. It’s a non-existent device that may (or may not) see the light of day, and could (or could not) revolutionize computing in the mobile era, and might (or might not) give you enough geek street cred to land you a speaking role on The Big Bang Theory.

Let’s back up. A few weeks ago, Canonical posted a teaser campaign to the Ubuntu homepage. It was all very coy, talking about the point at which a line meets space, or an irresistible

force meets an immovable object, or chocolate meets peanut butter, or something meets something else, and I had no clue what they were talking about, but it was very, very exciting.

Ubuntu fans went crazy. Would this be the release version of the Ubuntu Phone OS? Was a new Ubuntu tablet shipping? Was ABBA getting back together? I need to know! Pretty quickly someone figured out the riddle, and the Ubuntu Edge, whatever that was, emerged as the best guess. We were all still in the dark, but at least we were huddled together in the dark, keeping each other company, reveling in our shared love and speculating about what the big reveal would look like. Kinda like pre-show in the mosh pit at a Lady Gaga concert.

When The Ubuntu Edge itself was finally revealed, people went apeballs. The excitement caused temperatures to rise in nerd-heavy regions of the world. The Akihabara district actually had to shut down for a few days while

they mopped up all the drool. People were over the moon, like Macguyver-TV-series-reboot-starring-Felicia-Day-as-Macguyver excited.

The Ubuntu Edge turned out to be a phone like no other. It would dual-boot Ubuntu and Android. Its screen would be made of moon rock (or something equally exotic). The battery would be so



experimental no other phone has ever used one like it before. It would give you access to an Ubuntu App Store. It would be shiny. And, most revolutionary of all, it would allow you to connect a keyboard and screen and run native, full-scale Ubuntu, bridging the gap between your mobile phone and your desktop PC.

I haven’t been this excited since I heard Disney bought Lucas Films.

And then reality set in. Ubuntu Edge wasn’t a phone. It wasn’t even a product. It was a concept. And it wasn’t something you could get, it was something you had to fund. And it wasn’t ready today, you’d get it in several months, after it was built, stress-tested and shipped.

Here’s what the Ubuntu Edge really is: an Indiegogo crowd-funding campaign to raise the money to build the device shown and spec’d here: <http://www.indiegogo.com/project/ubuntu-edge>. There are different funding categories, from the \$20

“Founder” level, which basically gives you bragging rights and tells people you knew from the get-go that Ubuntu Edge was something special, to the “Enterprise Bundle,” which, for \$80,000, gets you 115 Ubuntu Edges (Edgii?) and VIP access to developers and support.

The promise of an Ubuntu Edge delivered to your door (once it’s built and shipped) can be had for US\$695.

Crowdfunding is the Medici-da Vinci model updated for the modern era. Everything from novels and movies to watches and robots have been funded through Indiegogo, Kickstarter and other community funding sites. You post your idea, tell us why you think we should give you money and, voila! You can go off and make those hipster bike shorts with the integrated wine bottle pocket!

I’ve used these sites. I’ve supported artists and engineers with more brains than coins and helped them realize their dreams. In the process, I’ve received products or experiences I couldn’t get anywhere else.

The Edge follows a well-

established landscape for crowdfunding campaigns. And it was wildly successful at launch, breaking all sorts of records for biggest single-day funding, fastest to US\$1M, fastest to \$2M, largest campaign, etc, etc. The funding goal of US\$32,000,000 was ambitious to say the least, but crowdfunding campaigns are, by their nature, ambitious efforts undertaken by dreamers. Canonical clearly knew what they were doing.

Beyond the initial upswell in



support, probably the clearest indicator that the Edge campaign was doing something right was the confederacy of naysayers that quickly rallied to kill the project.

I call them Harumphers. Harumphers exist in every community. They are hyper knowledgeable about the topic at hand, incredibly intelligent, completely versed in best practices, and wholly committed to killing your dreams. Their job is not to support your enthusiasm and encourage your excitement. Their job is to show how much they know by telling you why you’re wrong.

I’m not talking about your garden variety skeptic, good people with honest doubts about untested products. These skeptics are the good soldiers, fighting to make bad ideas go away, good ideas better, and great ideas amazing. And here’s the thing, skeptics have a lot of reason to focus their efforts on this campaign. The Ubuntu Edge is a technological marvel doing about ten things that have never been tried before. The critical path to its completion is a minefield of choke points, any one of which could mean the difference between a

pocketful of nerd crack and vaporware. The idea of paying \$695 for a dream alone might give someone pause.

But I believe in the product and the campaign and would have gladly given at the “Ubunt Edge” level where you get an actual phone (if I had that kind of scratch laying around). I contributed at the Founder Level and encourage others to do so as well. Moreover, I believe the US\$695 level is a bargain.

Here’s why.

First, the phone only gets made if the whole US\$32M gets funded. And if, once you receive your phone, you decide you don’t like it, you can return it. That’s right, you have 28 days to return the phone for a full refund.

Second, US\$695 isn’t that much. I know, that sounds insane. I mean, that’s Scooge McDuck money. If I had that kind of money, I’d get it in ones and roll around in it naked. Heck, I’d do that with the money I have now, but the quarters tend to chaffe my butt.

In all seriousness, the US\$695 is



actually a reasonable price for what you get:

- Bleeding edge battery tech with 5x to 10x the capacity of current batteries
- A sapphire crystal display that's almost impossible to scratch and is the same type of crystal they use on high end watches like Rolexes and Omegas.
- A completely unlocked phone that runs Android so I can use it with my current service provider (it's also roughly the same cost as a full-price, unlocked, unsubsidized phone from one of the carriers)
- Either a desktop PC that fits in my pocket or a pocket-sized phone that runs my preferred desktop OS

I think one of the most interesting things about the phone that doesn't seem to be getting a lot of traction is that this isn't like buying the newest HTC smartphone from Verizon. This is a device built for enthusiasts, by enthusiasts. It pushes the envelope to its ripping point, and challenges the other device makers to meet them on their turf. Can you imagine a phone that says, "hey, all that talk you guys have been spewing about convergence and how your mobile phone is a PC in

your pocket? Yeah, we actually built one." Boom. The Edge drops its mic and struts off the stage.

No, this is no ordinary phone that's essentially one standard deviation away from everything else out there. This is so many standard deviations from the norm, it's playing pick-up games with Nate Silver in the alley. It's the phone Michael Schumacher would build if he was into phones instead of cars.

Not only is the device a test bed, it gives the users who funded it a voice in what they want next. Canonical has hinted that if the funding takes off, users could influence the direction of future phones. Think your next phone should be Steam-enabled so you can play your games stored in the

cloud? Tell them. If there are enough of you, it could just happen. Imagine going to an auto show, dropping a three-inch carney roll of hundos tied with a rubber band and saying, "I'll take that Mercedes concept vehicle. And here's my list of must-haves for the next version you build." We'd have flying cars in no time.

If this experiment in crowd-funding a new mobile platform fails, it is possible the real message of the thing got lost from concept to consumer. This isn't a phone, it's an idea. It's a way of thinking about technology you use every single day and paying to have it improved, not arithmetically by adding a sexy new background or a must-have user interface, but exponentially by taking the best tech in as many areas as possible

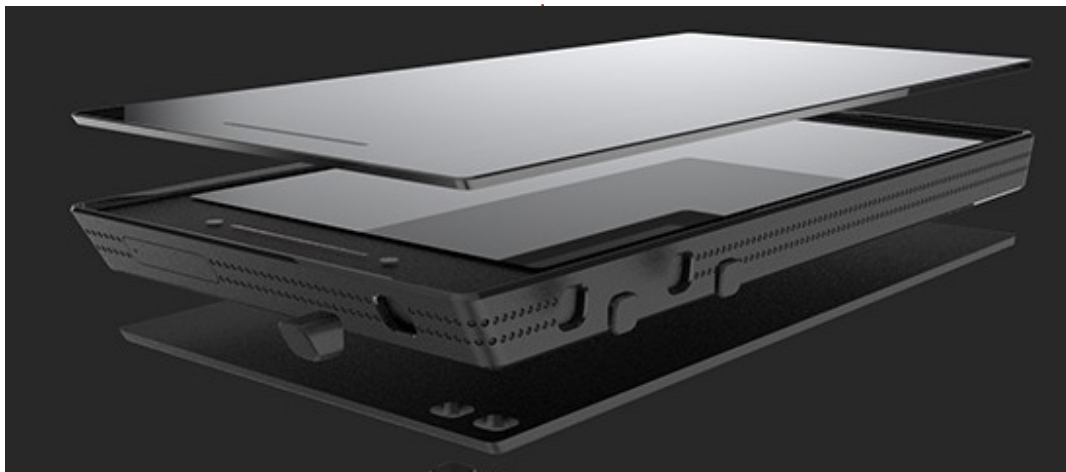
and putting it in your pocket.

By the time you read this, we will know if the project met its US\$32M goal. If it does, I will be proud to have funded it in its earliest stages. If it doesn't, I look forward to the next attempt by Canonical to push the limits and try something new.

The Harumphers will always balk, and if the Indiegogo campaign fails, they'll say, "I told you so."

If it succeeds, they'll be annoyed at having to pay double for one on eBay because you know they'll want one. When that happens, I'll refrain from saying I told you so.

Good luck and happy Ubuntuing!



**Copil** is an Aztec name that roughly translates to "you need my heart for what again?" His love of women's shoes is chronicled at [yaconfidential.blogspot.com](http://yaconfidential.blogspot.com). You can also watch him embarrass himself on Twitter (@copil).





One of the strengths of UNIX-like operating systems has always been the fact that most tools can be used together with other tools. So when I was asked how to set up a simple security camera for Linux, I had to do a bit of thinking how someone without a lot of experience might do this. ZoneMinder is an amazing application, but it seemed like overkill for this particular situation which needed only a single camera pointed at a door.

One thing we considered was the possibility of the storing computer being taken or destroyed. We needed a solution that would take pictures only when there was movement. We also wanted to synchronize the pictures with a cloud service.

We decided on Dropbox over Ubuntu One because we needed a client that also ran on our Blackberry cellphones. After some struggling with different video capture clients, we got the closest to what we wanted to do with the command-line program 'motion'.

When we first ran motion, we found it created hundreds of images, so we ran motion with the -s (setup) switch. Motion displayed the following:

```
[1] Changes:      0 - noise
level: 18
[1] Changes:      1 - noise
level: 18
[1] Changes:      0 - noise
level: 18
```

Use Ctrl+C to interrupt motion. Running motion with the -s switch creates a series of image changes, so motion can gauge what is scenery and what is noise.

We found that the default configuration file in /etc/motion/motion.conf still created too many images. You can override the default configuration file by creating a file called motion.conf in your home directory (note that this is not a .dotfile). If you don't like motion.conf sitting in your home folder, you can always call it something else and use the -c (configuration file switch) to point to the configuration file.

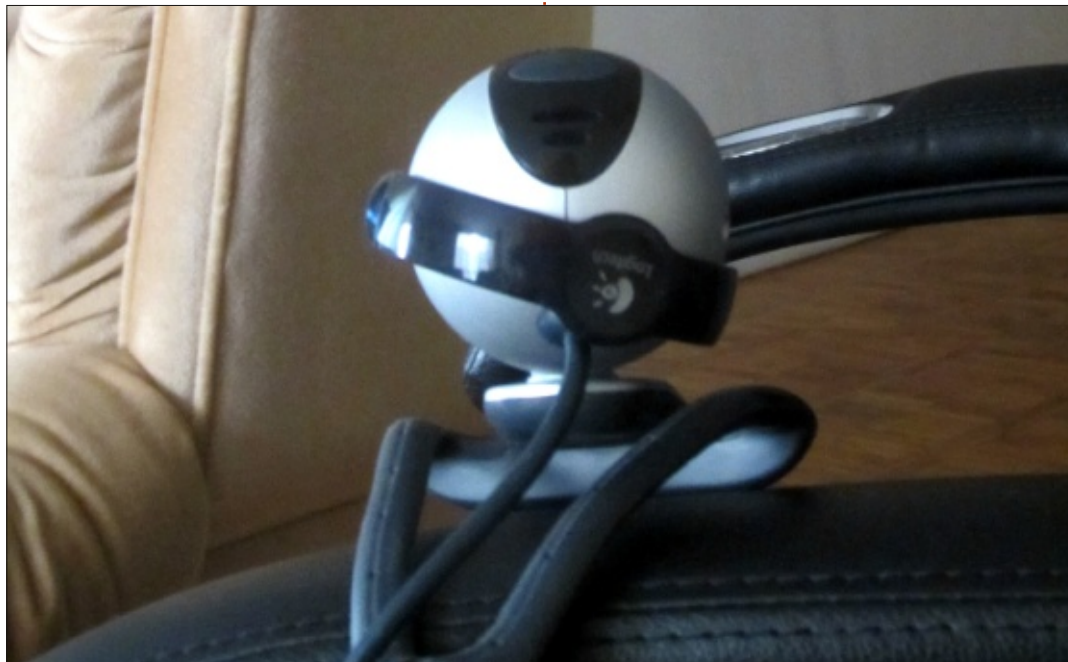
We created a motion.conf with the following options:

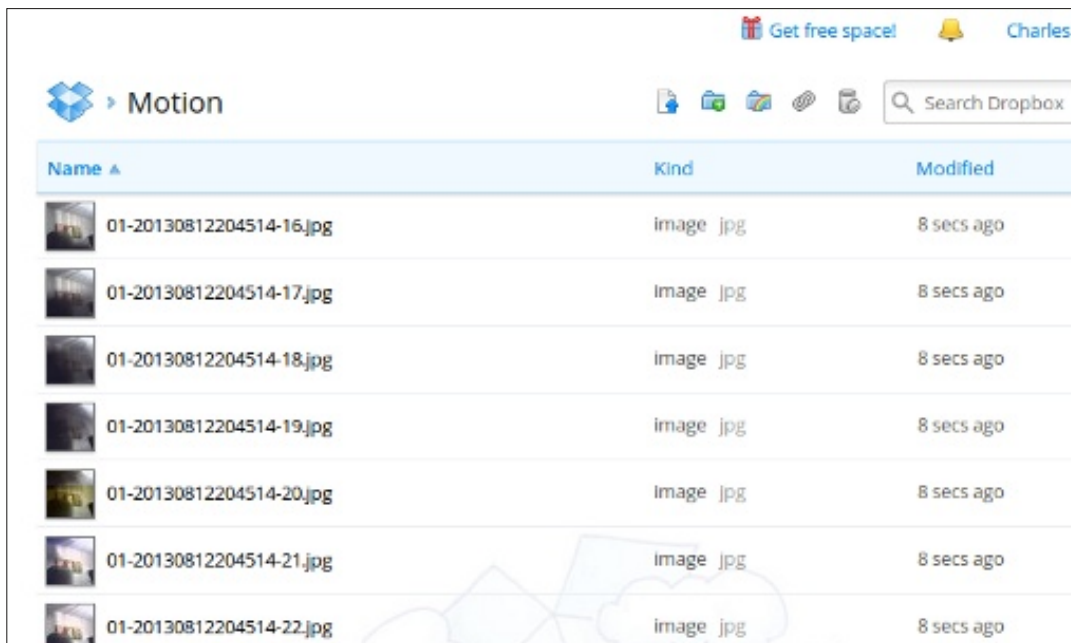
```
webcam_motion on
noise_level 255
framerate 2
```

The webcam\_motion option can be either on or off. By default, it's off – because the default webcam\_maxrate is normally set to 1 frame per second. If webcam\_maxrate is set higher, webcam\_motion limits any capture to 1 frame per second if no movement is detected. We found that turning it on seemed to reduce the amount of images captured. The default noise\_level in /etc/motion/motion.conf is 32, we set this higher (255) so the webcam wouldn't be triggered so much by light changes.

When I walked into the frame, walked up to the camera, and walked away, motion took 254 images. It might seem like a lot to synchronize, but at 8k-10k an image Dropbox synchronized the images quickly.

For the Dropbox setup, we first visited dropbox.com and created





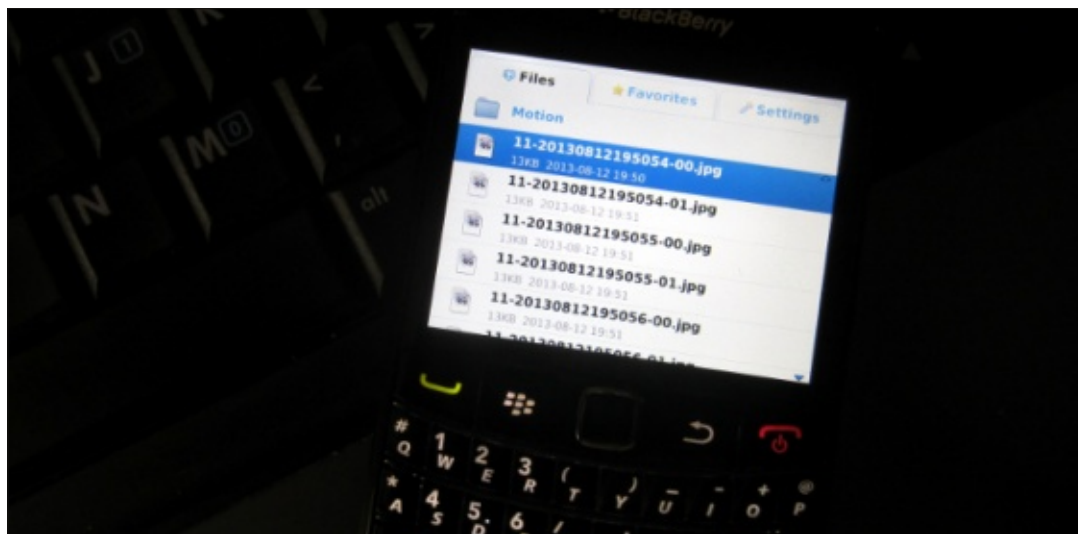
an account. In my case I already had an account and I needed to click on **More** in the bottom left of the screen to open a menu with the **Install** option. Clicking **Install** took me to a page where I could download either the 32-bit or 64-bit version of the dropbox command-line tool. I'm running Linux Mint at the moment and the Ubuntu 32-bit .deb file installed fine.

After installing the dropbox you need to install the rest of dropbox by running:

```
dropbox start -i
```

Dropbox will download a file and install nautilus support. You should notice a small dropbox icon on your panel. During the install, you'll be asked several questions including where you want the Dropbox folder to be, we left it as the default in the root of our home folder. We also created a folder called Motion in ~/Dropbox, so we ended up with a folder called ~/Dropbox/Motion.

We then installed the Dropbox app on our Blackberries. Motion stores images wherever it's run from, provided that its directory is writeable. We ran motion in our ~/Dropbox/Motion directory, and



then walked in front as a test. Motion captured images and Dropbox started pulling down the Motion data we'd captured right away.

The Dropbox software need not be installed on a computer in order to view the dropbox data. By simply logging in to the Dropbox website, we were able to view all of the photographs caught by motion.

The flexibility of running Dropbox either on a PC or on our Blackberries covered us whether we were near a computer or elsewhere. Of course there are much more sophisticated solutions like Zoneminder, but combining

motion and Dropbox gave us a quick solution where we didn't have to do a lot of setup and could access our security camera from pretty much anywhere we went.



**Charles McColm** is the author of *Instant XBMC*, a short book on installing and configuring XBMCbuntu, a \*buntu+XBMC distribution. Charles is the project manager of a not-for-profit computer reuse project. When not building PCs, removing malware, encouraging people to use Linux, and hosting local Ubuntu hours, Charles blogs at <http://www.charlesmccolm.com/>.



# MY STORY

Written by Amichai Rotman

I stumbled upon the Free Software world entirely by accident. It was around 1999. I was living with roommates and one of them started a Software Development course at his college. I had Windows 98 installed on my PC and an analogue TV Capture card that refused to work at full screen, even with all drivers updated and reinstalled!

One day, I saw my roommate playing around with a brand new system on his computer: Red Hat Linux. He used the command-line a lot, typing on a black-and-green terminal—but still, I was mesmerized. It seemed very easy to use, and he claimed all worked out of the box. No drivers necessary. I asked if I could try it on my own PC. He then revealed to me that it is free and no license key is needed—that last bit made the sale—no more tinkering endlessly just to get my PC to work without crashing every 5-10 minutes....

He burned me a copy of the CD (those were the 14.4Kbps dial-up modem days, so downloading

another copy would have delayed me another day or two). I installed it alongside my Windows 98 and tried to see if everything worked—and it did! (well, except my modem, which was a WinModem. But that was easily fixed after searching the Internet using AltaVista Search in pre-Google days).

I started my journey with computers at the age of 13 back in the mid 80's with a Commodore 64. I used it mostly for gaming, of course, but I even tried to program a bit in BASIC with it. I then moved to the PC world using DOS 1.0, and all through Window 3.1, Windows 95 (I even touched Windows Millennium Edition for a bit!), so I was no stranger to the command-line. I always liked to see how things worked under the hood, so I felt right at home with my new Linux-based machine. After two weeks, during which I made sure everything worked, even my TV Capture card worked better in Linux, I backed up my files, formatted my entire hard drive, and made the move to the Free

Software world—and never looked back!

The first Ubuntu I installed was version 5.04 (back in 2005). I read up a lot about it in the Linux news sites. I had grown tired of KDE at the time and wanted to try something new. I have stuck with Ubuntu since then. I have tried a LiveCD version of Fedora now and then, but none of them were as usable and stable as Ubuntu. I also like the fact that all new applications come out with Ubuntu clients first (eg. Steam by Valve), the way it's set up out of the box with the most popular applications in each category, and the fact the primary user has to use the “sudo” command and is not allowed to log in as the root user by default. I think this strategy saves a lot of grief from inexperienced users. Another thing I love about Ubuntu, although controversial, is the Unity interface. It takes some time to get used to, especially for experienced Linux users, but once you get used to it, it is a cinch to use and prevents clutter on the desktop. From my experience, it is easier for

computer illiterate people to understand, once you spend a few minutes to explain the basic use. They are so used to work with badly designed User Interfaces, it takes them a few minutes to understand how Ubuntu / Unity is simpler...

I have since moved a few of my friends, family members and even one of my customers, to Ubuntu—and they are a lot happier with their computer than they were before the move.



**Amichai** started his computer days with a C64. Today he is a computer service and solutions provider. He specializes in Free and Open Source solutions for the home and small business sectors in his home town.







# MY OPINION

Written by Robin Catling

The affair that began with Dapper Drake in 2007 is over. The big switch-over is complete. I no longer have a machine running Ubuntu. Everything is now running Debian 7 Wheezy.

The disillusion has been a while brewing, but the truth became apparent early this year: Ubuntu as a distro no longer has anything I need.

I can't say it's been any one thing. Lord knows (although I am an atheist - I don't believe in Mark the Apostle) I tried to love Unity; I really did. The neat idea that began in Ubuntu Netbook remix as a cool small-screen interface just never matured in the way I wanted. Unity kept getting in the way. Unity kept making me type stuff. Unity was never as configurable as I wanted. It wasn't finished or ready back then and now the quick menus and live icons have arrived too late for me.

I may be old-school, but I believe that a graphical user interface doesn't make you leave

the mouse and type something every five seconds. I certainly don't want an icon-heavy interface that is easier to use if you learn an entire sheet of keyboard shortcuts. In fact, the interface introduced in 11.04 was a major stumbling block I never got over. The global menu wasn't where I wanted it, disappearing and reappearing like an Apple-Mac parody of Marley's ghost; the notifications don't quite behave as I like.

The HUD (Head Up Display) never really cut it for me, sitting atop Unity. Adding lenses to Unity's dash, especially one that automatically searched Amazon for products to buy each time you try to open a program - that didn't help. Particularly when disabling 'Include online search results' by default was verboten; Ubuntu has to make money now, earn its upkeep. There's nothing wrong with that, if that's the

environment you want to play in. I'd rather keep my shopping and my OS separate, thank you very much.

The convergence of desktop, TV and phone interfaces doesn't cut it for me either; it may make sense to have a common code base, common tools, common use cases, but it seems that what we're heading for is a 'one size fits none' approach where common sense is pushed behind the fanfare and the marketing videos - a bit like the ginger kid in the school photos.

To be fair, Canonical is moving at a rapid rate; new products, new markets, new technologies; there is a drive to innovate and take Linux places; just not any of the places I want to go. It's bold and it's often cutting edge - but as someone who was involved in testing in Ubuntu-QA for a while,

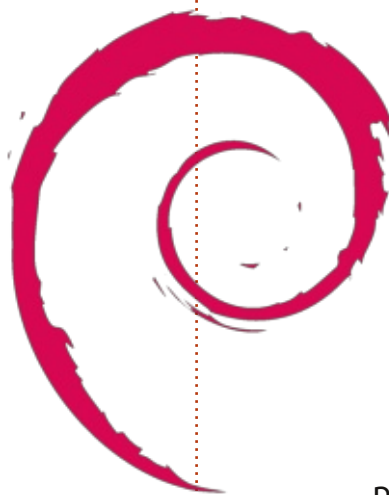
trying to nail the lid on it, those cutting edges keep drawing blood.

By the way, where is my Ubuntu TV?

It seems the Ubuntu stack has been a touch unstable since 11.04 - maybe it's all that work on Unity and notifications, ripping out Gnome components and adding Canonical's own code, but the net result has been a continual stream of program crashes these last four releases, just when the reliability record for a mature operating system should have been on the up. I kept expecting each release to get more stable but 12.04 and 12.10 maintained the procession of apport crash notifications, and I won't even mention 13.04.

I can tell you in my first month, on three laptops of different age, manufacture and processors, Debian hasn't crashed.

There are things I am going to miss. Cloud storage service Ubuntu One: horribly buggy and breakable at launch, yet within three months,





rock solid and an essential part of my backup regime. You can get Ubuntu One for Mac and Windows now. But any other Linux? That's hard. And I dislike the lock-in. And the up-sell. And the cross-sell.

Then we come to the recent controversies; I've written about those on my blog (<http://catlingmindswipe.blogspot.co.uk/2013/05/opinion-respect-in-community.html>), so I won't go into the whole downgrading of community input, or the secret development of the Mir graphics stack in place of Wayland. All I will say is there are ways of doing things and communicating with people. There is such a thing as expectation management. You can't blame the community for kicking off when Canonical tells everyone for eight years that this is a Community Distro, that everyone counts, the Circle of Friends is your emblem, and Ubuntu belongs to everyone: until this year we found it doesn't.

That too is all fine: since we're not paying the piper, we don't get to call the tune. Whose tune is it anyway? Let's just say I'm less than happy since Canonical cut a deal with the Chinese state to deploy

Ubuntu. China and software freedom are irreconcilable at present, no matter how you try to dress it up and keep singing your own song.

So I said stop the bus, I want to get off.

I thought about the officially recognized variants; I almost went to Linux Mint. Then I considered the dependency on the down-stream derivatives of Ubuntu, itself a down-stream derivative of Debian, and none of those made sufficient sense. Why not go back upstream to where the community work happens?

I admit Debian isn't perfect. Gnome-3 (Gnome-Shell) remains a hideous, unusable abomination, but you know what, it took about three minutes to revert to a simple set of Gnome-2 panels and menus. I can point, click, and customise as much as I want. I am a simple soul, I need a simple interface.

It's also true that Debian isn't as GUI as Ubuntu, or KDE, or Mint, and yes, I have to dive into a terminal session to get things done a little more often than under those others. But I know enough

now, I'm no novice, I can take that pain. There's an active community behind Debian and the answers can be found.

I am still happy to use Linux, but I am exercising my freedom of choice. I don't need to be riding anyone's bandwagon along someone else's highway.

### Full Circle Podcast Episode 34, Raspberry Jamboree 2013

Your hosts:

- Les Pounder
- Tony Hughes
- Jon Chamberlain
- Oliver Clark  
and Freaky Clown



from the Blackpool (UK) LUG  
<http://blackpool.lug.org.uk>

Welcome to the first of a 2 part conference special, in this episode the presenters reflect on the first ever **Raspberry Jamboree** held at the Manchester Central Conference Centre on 9th March 2013

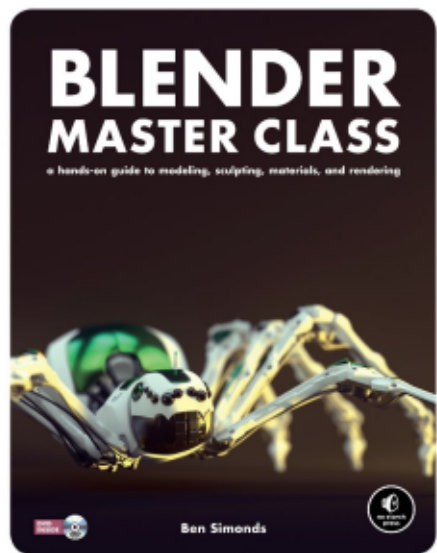
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# BOOK REVIEW

Written by Ronnie Tucker

## Blender Master Class



**Blender Master Class - A Hands-On Guide to Modeling, Sculpting, Materials, and Rendering**  
by Ben Simonds

February 2013, 288 pp., w/ DVD  
ISBN: 978-1-59327-477-1  
Full Color

\$49.95 Print Book and FREE Ebook  
\$39.95 Ebook (PDF, Mobi, and ePub)

<http://nostarch.com/blendermasterclass.htm>



Throughout the book you'll be shown Blender via three projects; a bat creature, a spider robot and a jungle ruins scene. These will teach you various Blender features such as modelling (robot parts, anatomy and bricks), texturing, and effects such as hair and water.

The book, unusually, begins with an introduction to GIMP of all things. But, since you'll spend a fair bit of time creating textures in GIMP, this is no bad thing.

Chapter 3, Preparation, gives you some basic Blender info and starts your collection of source material for the bat creature and the jungle scene. Chapter 4 is where you get your hands dirty and begin extruding vertices, edges and faces. It may seem like a really simplistic tool, but it's hugely powerful when combined with a smooth shading mode.

Now that you have the basic jagged model, Chapter 5 will show you how to add details such as foliage to your jungle ruin, wires

and bits to your 'bot, and eyes, fangs and nails to your creature.

Chapter 6 shows you how to use the sculpting mode of Blender. This is somewhat similar to what you'd see in Windows applications such as zSculpt.

Retopology (Chapter 7) went right over my head. Apparently it's *'the process of creating new geometry over an existing mesh while maintaining the object's basic shape and rebuilding its topology'*. I'll take your word for it.

Chapter 8 is where you unwrap your model to begin texturing. Chapter 9 has you to adding hair to your bat beast. Chapter 10 gets you into texturing, 11 covers painting the texture in GIMP, and 12 deals with the creation of materials (in Blender).

No matter how much detail is in your model, it's useless without lighting – and that's Chapter 13. Getting the right lighting is how you make your model/scene seem bright and cheery, or dark and

creepy.

Chapter 14 gets you the final rendered image. Either in one pass, or with various renders composited to a single image.

While this book is about Blender, it's also partly a generic modelling book as it doesn't teach you Blender in a click-this-click-that kind of way. You'll need a different book (or our FCM Blender HowTo's) for that. The book does show you where the basic Blender functions/buttons are, but nothing in depth.

The book may seem quite pricy, but bear in mind that it is full colour throughout, and, in both price brackets, you're getting a PDF/mobile edition while the print edition has a DVD.

If you need a book to hold your hand and teach you to model and texture, this is not it. If you know the basics of Blender, and want to move up to the next level with modelling or texturing, then this is definitely what you want.





# REVIEW

Written by Art Schreckengost

## Google Drive/Docs

As best as I can decipher, Drive is the cloud based file storage system that hosts Docs, Sheets and Slides, the three basic apps that comprise the Google Office suite, which is given the generic title of Google Docs. Technically, when you create a doc in Docs, it's also in Drive.

While that may seem a little confusing, installation definitely isn't—there is none. Go to <https://drive.google.com> and if you have a Gmail address you merely sign up. If not, get an address and then sign up. Doing so gets you a free 5GB storage space for life with fee-based options going up to somewhere around 1TB. Got a new Chromebook or Chromebox? You get 100GB for 2 years on select models.

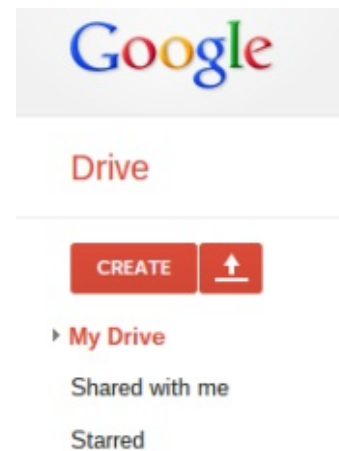
Otherwise, the only requirements consist of having a computer, tablet or smartphone, some form of internet connectivity, and the Chrome[\*] browser.

Sounds great? Well, it is, but

remember the following:

- Chrome is not only the recommended browser, it's the only one that'll work with certain functions such as offline editing. This means if you're a diehard fan of some other browser, some functions just won't be included.
- Docs, Sheets and Slides are the standards, but over 100 apps are in the Google Web Store ranging from advanced processors to music players (an odd choice for an office suite).
- Files are saved to Google Drive or Chrome's cache (for offline editing—more on that later), so an internet connection at some point is imperative—even if most of your work is offline. If your idea of web surfing is to hover around the local motel once a month or so to swipe their signal, you really should be looking elsewhere. In addition, files are given a https secured web address, so, if you are using a shared signal, make sure it allows the accessing of secured sites.

Following the protocol gets you this:



That's your menu. Get used to it as you'll be using it a lot. And what of the rest? Well, as you'll find out as you read on, Google believes in simplicity, so the Create button is your ally here, as it does most of the grunt work.

As for the individual apps (they are not called programs), you get the following:

App	Usage	Perks	Quirks
<b>Docs aka Documents</b>	Word Processing akin to Word, Wordperfect or Writer	Mimics the basic functions of the programs mentioned to the left. Can open MS and .odt files along with the generic standards.. Saves in .gdoc format to Drive but can download in .docx, .html, .pdf, .odt, .txt or rtf formats or direct to web publishing.	Options are limited (16 fonts for example) and interface is not configurable beyond going full screen and adding a mathematical formula toolbar. Templates are chosen prior to opening any app instead of other way around. Options like watermarks are a bear to set up and must be done via coding.
<b>Sheets aka Spreadsheets</b>	Excel compatible spreadsheets	Can also handle .ods and allows for online collaboration and editing with multiple participants. Uses Excel formulas and is a near-fit for that program. Saved files carry .gsheet suffix but can be downloaded as xls/xlsx, .ods, .pdf, .csv, .txt, .html or web published.	Not many, and most users have given it high praise even if it has all the aesthetic charm of moldy bread.
<b>Slides aka Presentations</b>	Near Powerpoint clone, but aren't they all?	Works with .ppt/.pptx or .odp formats.	Unlike others, cannot save to LibreOffice .odp format but instead saves to .gslides with options for .pdf, .svg, .png, .jpg, .txt or web publishing.



# REVIEW - GOOGLE DRIVE/DOCS

So what do they look like? Take a gander right. (Top to bottom:) **Docs**, the word processor. Gee, ain't it exciting? **Sheets** for spreadsheets. Generic but functional. **Slides**, with color!

No, you haven't gone colorblind and I haven't gone cheap on black-and-white photos—these are your color schemes with the first two being devoid of anything but murky shades of gray, black and white. Unfortunately, that's the price of admission for products that use online sourcing—you pretty much have to take what's offered and lump it otherwise. Only Slides comes with any sense of color in the base format, and that's only if you set the slides themselves to have color. Otherwise it's the same blasé format as everything else.

Can you jazz them up a bit with options? Not really, since this is an online-only proposition. You can perk up the Chrome browser a bit but not Google Docs or Drive.

And what of that blue button in the upper right corner? That's the Share option in anything put on Drive. Clicking it opens a box of options allowing for the sharing of

your files via Gmail, Google+, Facebook or Twitter.

Of note, I went full-screen for the screenshots which explains the absence of any browser borders.

## OPERATIONAL EFFICIENCY

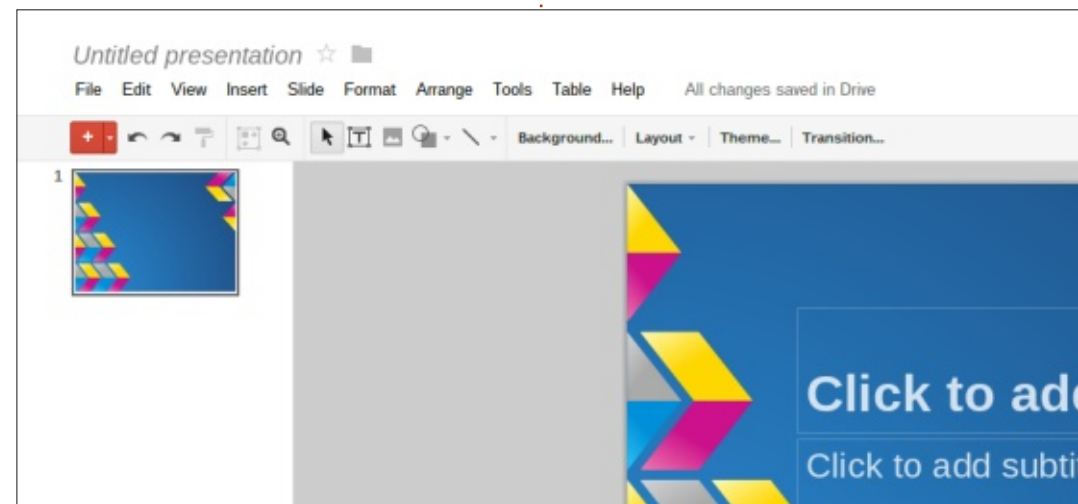
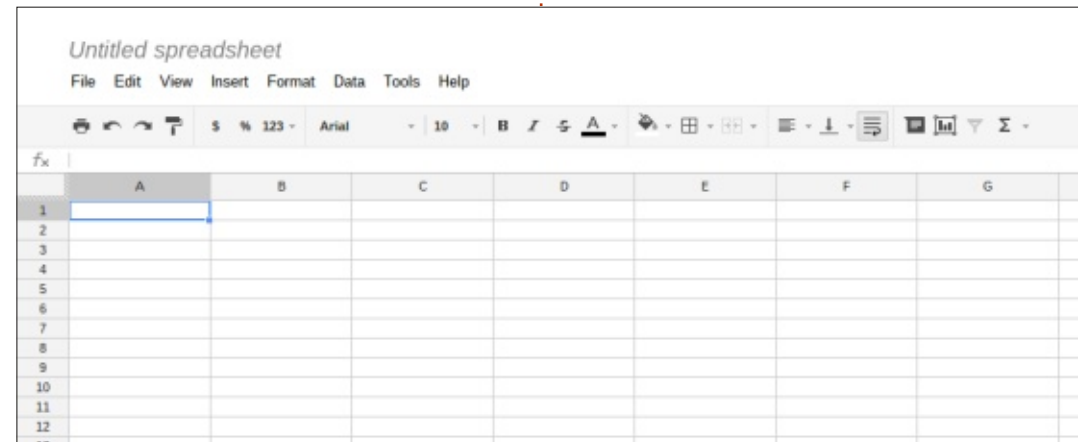
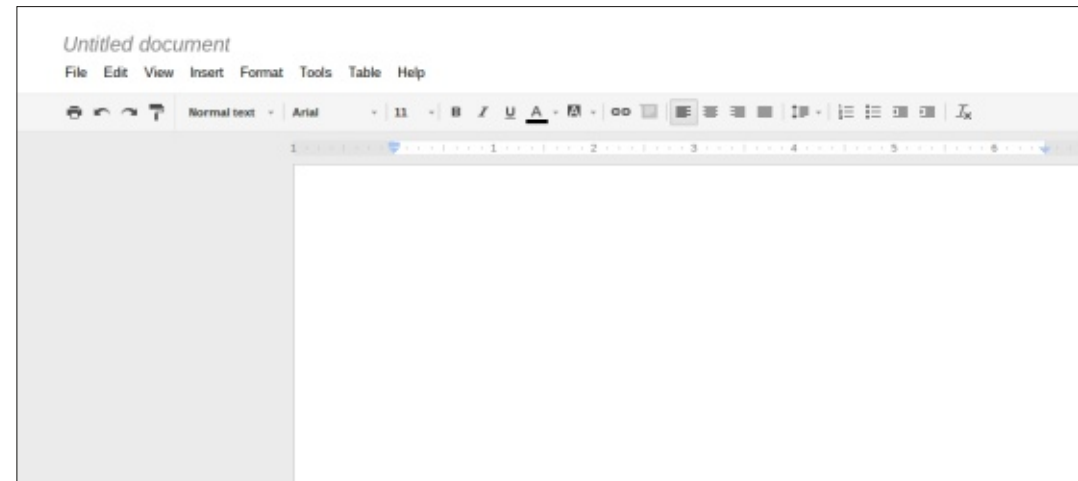
As you've probably figured by now, these are lightweights compared to commercial versions. However, you are getting them for 100% less than those other options (excepting LibreOffice).

As with anything free, there are peccadilloes and oddities to be aware of.

First, most reviews state any of these can handle MS and Open-Document files, but is this true?

Sort of, but you have to understand the multi-step procedure (and these do apply to other non-Google formats, too):

1. Upload your file(s) to Google Drive. Anything is accepted for Drive storage but remember that doesn't necessary mean it'll open in Docs. MS and LibreOffice formats are welcome to the party





but you can forget Wordperfect files (they never did open for me). Most of the generic offerings (.txt, .rtf, etc) can also be opened and edited. PDF files can be uploaded but not edited unless options are added.

2. Ask Drive to open the file and while that sounds simple enough, it can get sticky. Docs handles just its .gdoc, .gsheet and .gslides so anything coming in with a different format has to be converted to the appropriate .g suffix. While this is done automatically it does have a quirk or two:

- \* Formats are limited with Docs having just 16 fonts. If you have a foreign document in a font not offered by Docs, you're flat out of luck. It'll attempt a conversion and may actually succeed (after quite a while, I might add), but your original fonts will be gone and you'll get Google's equivalent (which, as I discovered, is not even remotely close).

- \* Have watermarks? Not an option in Docs (at least not easily), and having these in your original document is a guaranteed failure during the conversion, as I discovered.

3. Once editing is finished, you can

download the file off Google Drive in various formats including .docx, .pptx, .odt, .rtf, .txt, .html, .pdf and zipped, or you can publish to the web. Naturally you can also opt to keep it right on Drive if you so desire.

- \* Hold your horses there, partner. Let me clarify that point. You can save Google formats to Drive and you can import nearly any other format to Drive, but you can't save anything Drive outside of .g formats; however, there is a curious twist. If you download a file in .odt you can turn right around and send it back to Drive in that format. Go figure!

- \* Here's an example. I did this review in Docs, downloaded it as .odt, and then discovered a few errors. Upon re-uploading the file back to Drive, it converted it again and now I had multiple files. Fortunately, Drive comes with a time and date stamp for each file.

These problems also crop up in Sheets and Presentations, too. Use of options in your original files not available in Google Docs is a guaranteed snafu, but, to be fair, that has always been a problem with switching files back and forth

between suites. Anybody transferred files back and forth between MS Office programs and the LibreOffice equivalents can testify to this.

Second, you must get accustomed to a certain change in procedures.

For example, in most suites you open the corresponding program and then pick a template. In Docs and Sheets you pick the template and it opens the corresponding app (Slides has templates its menu system).

And if you want to see a real case of hyperactivity, take a gander at the autosave function in any of the apps. As soon as typing commences so does autosave. No waiting for a couple hundred characters—as soon as you stop typing or have a pause for punctuation or a brain spasm, it's saving.

Otherwise, it's business as usual although your internet connection determines just how well it works. If you have a slow connection, you will notice a certain laggy. A couple times I found it quicker to just shut down my wireless and go

to offline mode when my signal was too weak.

### OFFLINE EDITING

And what of offline editing, a function that's highly touted by Google? It works but only if you know the procedure. Unfortunately, it's not automatically set and must be requested via the main menu. Once established, it applies to all files created in Docs, but I have seen users give up on Docs because offline editing is missing only to later discover it failed because they forgot to initiate the process (hint to Google—make it automatic).

Additionally, offline files are stored in Chrome's cache. Take a hint from me and don't get overzealous with the cache cleaning, especially if you don't plan to go online before using offline editing again. Cleaning the cache also wipes out the offline files (don't worry—they aren't deleted except from cache).

Of note, there are some reviews that state just Docs and Slides worked offline; however, it

REVIEW - GOOGLE DRIVE/DOCS

appears Sheets is in the mix now, too.

Users must also realize that offline means you'll have to go online in the near future so Drive can auto-save the changes (it's done seamlessly to the point you'll never notice). If for some reason your cache gets wiped before going online again, your changes are goners.

FINAL ANALYSIS

So what keeps me coming back even with a boatload of restrictions and some odd twists?

It's basic, it's free and it works on nearly any computer, tablet or smartphone out there. Just try that with most office suites. While MS, Corel and even OpenOffice/LibreOffice are making strides in cloud suites, they haven't quite hit the mark yet, or, in the case of the first two, are just too expensive for the average person.

Does it fit the bill for everybody? Absolutely not. I imagine students doing complex documents and spreadsheets will

find it lacking, as will certain professionals. However, the average person will probably find it quite useful, especially those doing work on a wide variety of portable devices. Several times I've found myself on a tablet and come up with a brainstorm. Docs allows me to just visit the site and make notes or start a new file without having to fire up the laptop (which may not even be close at hand).

Okay, so it is a little quirky, carries limited menu options and has all the artistic appeal of badly worn asphalt, but has anybody ever really noticed that many suites today have become so complex it's like learning a new language? Maybe less is better in this case, just realize your limitations and work with them.

DISCLAIMER:

All of the editing for Full Circle Magazine is done in Google Docs. Free, online, collaborative text editing is the answer to an editor's prayer. -- Gord Campbell

Amen! -- Ronnie

Google

ronnietucker@gmail.com

+ Share

Drive

CREATE

My Drive

FCM #34 - #39

FCM #40 - #49

FCM #50 - #59

FCM #60 - #69

FCM #70

FCM #71

FCM #72

FCM #73

FCM #74

FCM #75

FCM #76

FCM #77

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# SOFTWARE SHOWDOWN

Written by Tushar Bhargava

## Smile Please

Almost all Linux distros come with preloaded software for managing your photos. Most users stick with these defaults. Hence, the struggle for being the de facto photo organizer is an important and defining one. If you use a GNOME distro, you must have stumbled across either F-Spot or Shotwell – two very popular photo organizers. Shotwell is the standard photo manager in Ubuntu and Fedora, while F-Spot remains the default in openSUSE. Is it worth sticking to your default photo organizer, or do you need to

transfer loyalties? This article will help you to decide.

### GENESIS

For this review, I contacted Jim Nelson, executive director of Yorba, the software group that created Shotwell. I asked him why and when Shotwell was created. Mr. Nelson said, *"Shotwell was started in March of 2009. Adam Dingle was the executive director of Yorba at that time, I was its only employee. Adam's (and Yorba's) goal is to improve the GNOME Desktop*

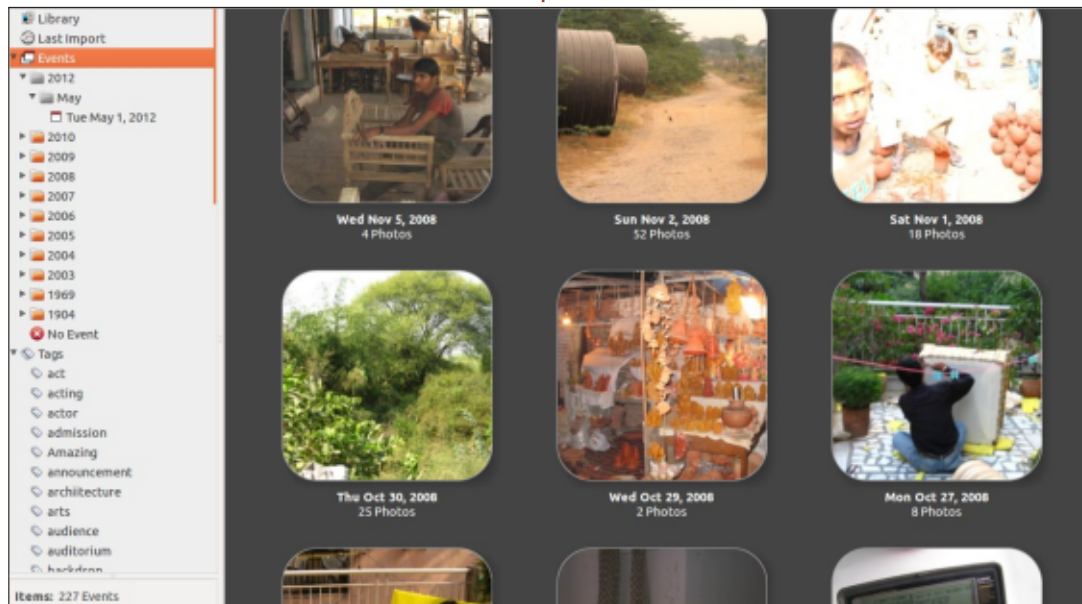
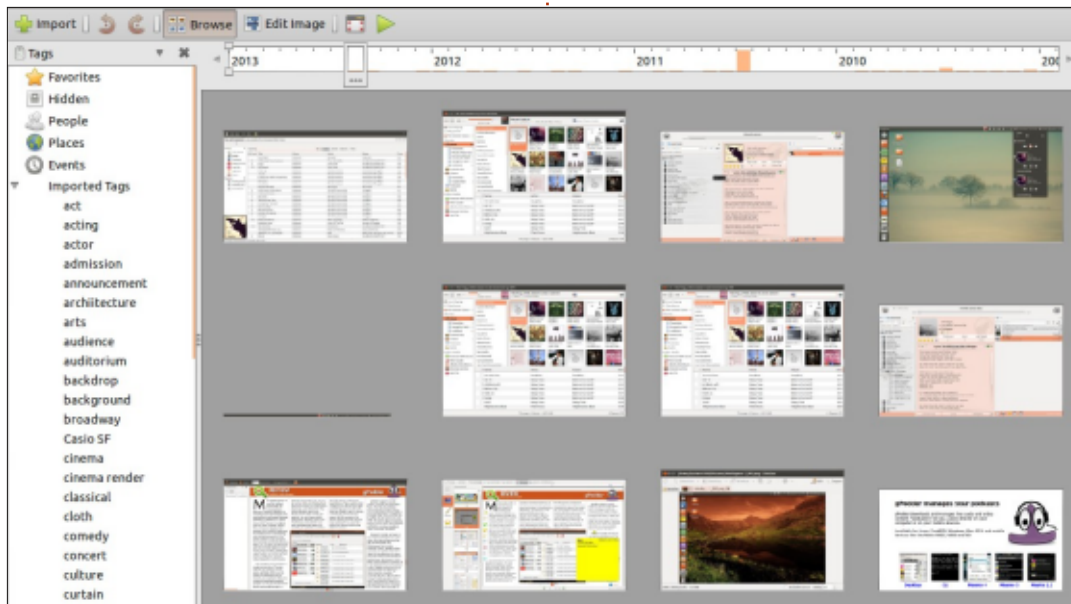
*experience. One place we both agreed that the experience was lacking was in the area of photo management, so we started working on Shotwell."*

F-Spot, meanwhile, probably came into existence circa 2003. However, some contributors were doubtful whether much code existed at that point, noting that Mono itself came into being in 2004 (F-Spot is a Mono application). To the question, why F-Spot was created, Adam Tauno Williams, an F-Spot developer,

answered, *"I'd guess because the world needed a better photo management app."*

### USER INTERFACE

F-Spot has a 2-column user interface (UI). The first column has a drop-down menu that allows it to be used for browsing photos tagged in a certain way, in a particular folder, or for showing the options to edit a photo. The second column, which occupies most of the space, displays the photos as square tiles. A time-line





bar on the top, equipped with a slider, makes sorting your photos by month or year extremely easy and intuitive. The size of the thumbnails can be adjusted using a slide – this feature is very convenient and shows the developers' understanding that one size does not fit all. The theme can be adjusted in the 'Preferences' dialog. You can choose from a plethora of options ranging from the ubiquitous 'Ambiance' to the lesser known 'New Wave'.

Shotwell also has a 2-column UI. The first column shows the entire photo directory, which includes the Library, Events, all the tags, and a trash folder. The next column shows the thumbnails of the photos. Like F-Spot, there is a slider to adjust the size of the thumbnails. In lieu of the time-line bar of F-Spot, Shotwell offers an alternative: Events. Choosing this option from the first column changes the display in the second column to a series of square (well almost square, the corners are rounded) tiles. Each tile represents a collection of photos and videos organized by the date they were taken. You can rename the events, which makes the tiles resemble

albums even more. Also, you can merge events. It's a great way to browse through all your photos, and is aesthetically pleasing as well. You can also activate the search bar in the UI, which is unobtrusive and useful. However, theme customization options are missing.

## IMPORT OPTIONS

I remember my parents lugging around heavy photo albums when we shifted house, setting up a new photo manager can sometimes be just as tiresome. That is where the 'Import' option comes in. A photo manager's ability to retrieve photos from a folder, SD card or even another program's library, is of tantamount importance.

While setting up F-Spot, importing the photos was easy. You just had to dissuade F-Spot from creating duplicates of every photo it imported in its own folder,

but other than that, the process was quick and efficient. However, when I tried importing photos from an SD card later, F-Spot

seemed reluctant, almost xenophobic, about accepting any new photos. In the end I was forced to cancel the unresponsive import window and turn to Shotwell.

Shotwell's desire to get your photos borders on almost stalkerish. It can, of course, follow the normal route to get photos – you specify the folder and it will obtain the photos. But it is not adverse to a bit of blatant stealing as well. Click on the option 'Import from F-Spot' and Shotwell will grab your photos from its rival F-Spot's photo database (audacious indeed). The feature makes migration undeniably easier, though. Insert an SD card and Shotwell will quickly ferret out the pictures from there as well, allowing you to import all the

photos in a single click. The import options in Shotwell make an otherwise painfully tedious process bearable.

## SEARCHING

Imagine the following scenario: you want to find that great photo someone took of you long ago. You fire up your photo organizer and then abruptly stop. A horrible realization just dawns on you: you don't know the name of the photo and are hazy about the year in which it was taken. Lost in a sea of cryptically named photos, you turn to the search bar. The scenario I just described is not as uncommon as it may seem for photos are often arbitrarily named and finding the one you want can be a particularly tricky task.

F-Spot has some great search options under 'Find' in the menu bar (elementary, my dear Watson). You can drag multiple tags into the 'Find bar' to locate your image. However, more useful is the find 'By Date' option which allows you to specify a time range within which to search. You can search by rating, and even look through the import rolls to find your missing

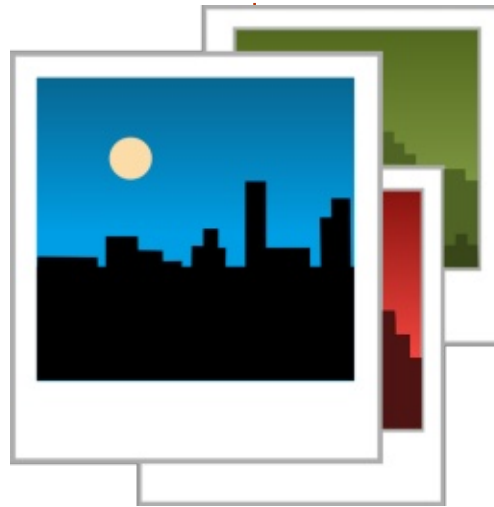




photo. The only criticism I have is of F-Spot's tendency to suddenly disappear. This whimsical disposition renders your painstaking search useless, and is a glitch that needs to be resolved. Further, F-Spot's Houdini act can occur during any task, not just while searching, which is extremely annoying to say the least.

Shotwell also has a decent array of search features. The search bar allows you to filter your results using rating, tags, the format, and whether the photo/video is flagged or not. Choosing 'New Search' under the 'Edit' entry in the menu bar opens up an advanced search dialog. This option is extremely powerful and, if you're patient, you will eventually unearth your photo. Shotwell's search may not be as convenient as F-Spot's, but it is certainly more comprehensive.

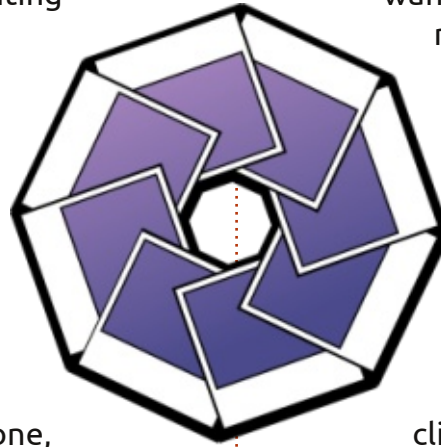
## PHOTO EDITING

Sepia. Red eye reduction. Crop. Words that would have been meaningless to most people a few years ago, are now a part of the lexicon of anyone who owns a smartphone. A photo management

program today simply has to offer some basic editing options.

Choosing 'Edit' from the drop-down menu in the first column of F-Spot reveals the following options: Crop, Red Eye reduction, Desaturate, Sepia tone, Straighten, Soft focus, Auto colour, and Adjust colours. This arsenal of tools, while allowing users to fine-tune their picture to perfection, may also overwhelm some less-experienced users. The sidebar also shows the histogram for the image, and a drop-down menu which allows users to restore the original image. The knowledge that the original would be safe made me much more comfortable while experimenting, and is, in my opinion, one of the best features of F-Spot. F-Spot also allows users to open the image using the image viewer, browser, or an external photo editor.

Shotwell allows you to crop the image, remove Red Eye, adjust exposure, tint and saturation. However, its standout feature is



the 'Enhance' button. Clicking this wand-shaped button magically transforms your photo, almost always for the better. This simple option will be appreciated by most users. And lastly, Shotwell is well aware of its own limitations, right clicking on the photo gives you the option to edit the photo in a more fully-fledged photo editor such as the wonderful GIMP.

## EXPORT OPTIONS

At last, we're nearing the journey's end. After importing the photos from the camera and editing them, we're ready for the final step. Which is? Why, putting them online for the whole world (or at least a part of it) to see, of course.

F-Spot allows you to export your images to Flickr, Picasa Web and a few other sites. The ability to upload images to Facebook, however, is sorely lacking. Shotwell allows you to publish your photos

to Flickr or Picasa Web as well as Facebook. F-Spot provides an option to create a Photo CD, which is also handy.

## CONCLUSION

Both of the photo managers offer great functionality, and have a simple UI and a robust tagging system. However, Shotwell is the clear winner for me. Its UI is a bit more beautiful, its search slightly more powerful, and its exporting options more comprehensive. F-Spot is still a wonderful photo organizer with an intuitive timeline bar, and will perhaps be better appreciated by those who want more photo-editing options.

## HOWEVER..

If you think both of the options I mentioned were inadequate, wait for the next issue of FCM where I review yet another FOSS photo management app - digiKam. digiKam was hailed by Lifehacker as the best photo management software for Linux, it might just be what you're looking for.

## EPILOGUE - SMILE PLEASE

# SOFTWARE SHOWDOWN

One last thing. While interviewing Mr. Nelson, I asked him whether he regarded F-Spot as a competitor. His reply gave me much food for thought. After clarifying that he did not want to 'bury' F-Spot, he said, "*If people are using FOSS of any variety, that's a success!*" Now isn't that reason enough to smile?

## SUMMARY

### F-Spot (top right)



#### The Good

Simple and intuitive UI with a convenient time-line bar  
Comprehensive photo editing options  
Great tagging system  
Easy and powerful search options

#### The Bad

Crashes often without any warning  
Lack of Facebook export feature

Website: [http://f-spot.org/Main\\_Page](http://f-spot.org/Main_Page)

Available for: Linux only

### Shotwell (bottom right)



#### The Good

Beautiful UI especially in 'Events' mode  
One click 'Enhance' picture option  
Quick and efficient import feature  
Great export options

#### The Bad

Search bar is often not sufficient, you have to open advanced search

Website:

<http://www.yorba.org/projects/shotwell/>

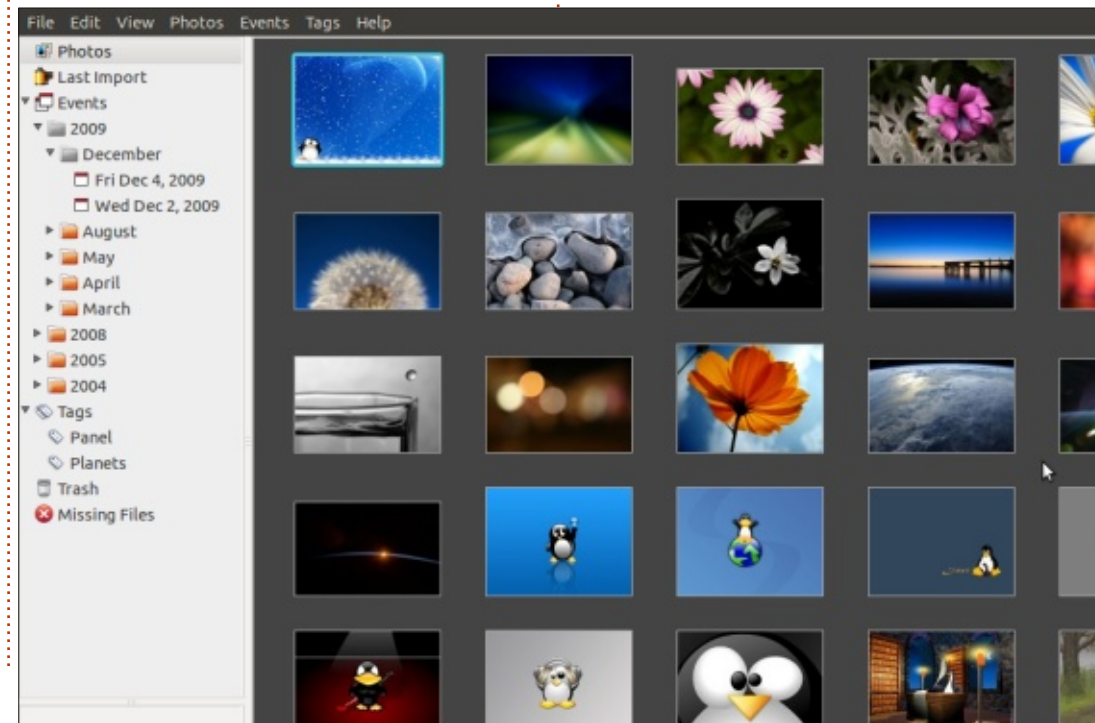
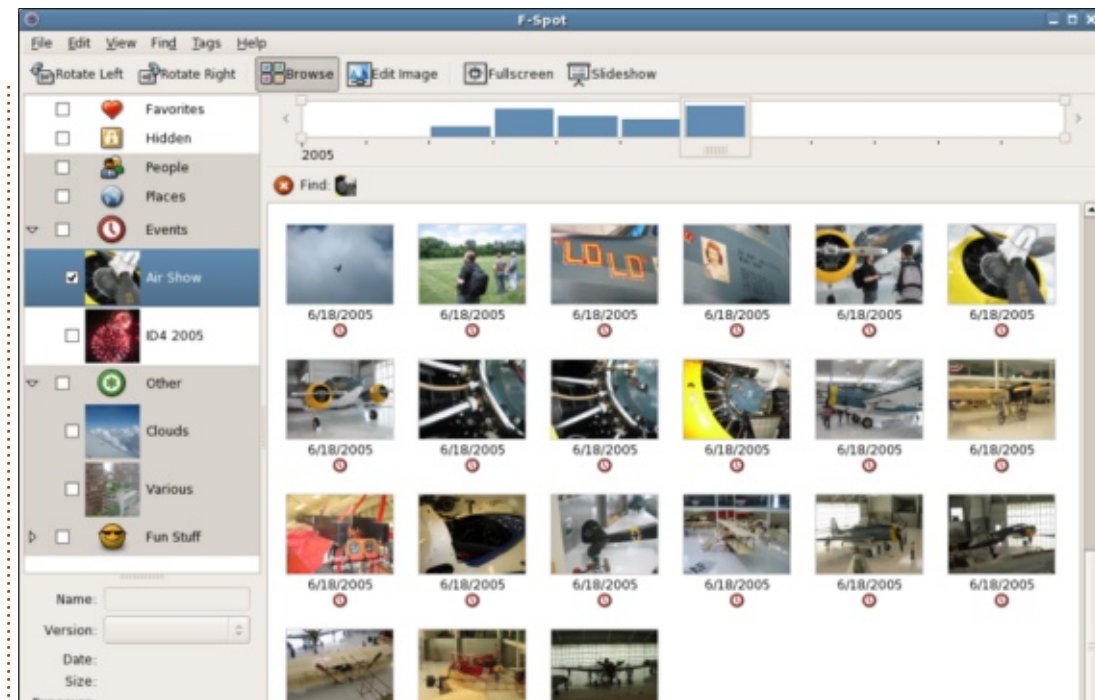
Available for: Linux only

## The Winner of this Software Showdown is:

Shotwell!



**Tushar** is a 17-year-old Indian who loves Ubuntu/FOSS. He programs in Java and C++, enjoys writing and, recently, making Android apps. If you enjoyed this article, his blog is at [tusharbhargava.wordpress.com](http://tusharbhargava.wordpress.com) for more articles.





# LETTERS

If you would like to submit a letter for publication, compliment or complaint, please email it to: [letters@fullcirclemagazine.org](mailto:letters@fullcirclemagazine.org). PLEASE NOTE: some letters may be edited for space.

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[ubuntuforums.org/forumdisplay.php?f=270](https://ubuntuforums.org/forumdisplay.php?f=270)

## FULL CIRCLE NEEDS You!



Without reader input **Full Circle** would be an empty PDF file (which I don't think many people would find particularly interesting). We are always looking for articles, reviews, anything! Even small things like letters and desktop screens help fill the magazine.

See the article **Writing for Full Circle** in this issue to read our basic guidelines.

Have a look at the last page of any issue to get the details of where to send your contributions.

Yes, I really did receive no letters last month.

Sad face...



# Tuxidermy

PROFESSOR,  
WE HAVE A  
PROBLEM!

SAY NO MORE, DEAR. I'VE TAKEN A STEP  
TO STOP ALL ERRORS AND DIFFICULTIES  
IN THE WORLD!

AND THE BOYS ARE READY TO STRIKE!



A TASK FORCE TO FREE ALL THE INNOCENT  
PEOPLE WHO ARE ENSLAVED BY ABUSIVE  
PROPRIETARY SOFTWARE! A BUREAU TO  
GIVE PEOPLE THE FREEDOM OF CHOICE!



BUREAU FOR FREE AND  
OPEN EVOLUTION

THAT'S SUPER, SIR. BUT I WAS TRYING TO  
TELL YOU I SNEEZED, AND ACCIDENTALLY  
TORCHED YOUR UNDERWEAR  
DRAWER.







## Q&A

Compiled by Gord Campbell

If you have Ubuntu-related questions, email them to: [questions@fullcirclemagazine.org](mailto:questions@fullcirclemagazine.org), and Gord will answer them in a future issue. Please include as much information as you can about your problem.

**Q** In some programs there are buttons I can't press at the bottom of the window, because they are below the bottom of the screen, and I can't move the window up any further than the top of the screen.

**A** Hold down the Alt key and you can move the window up, then adjust the height of the window and move it back down.

**Q** I have used this command before, but today it gave this result: `sudo: ./waltop.sh: command not found`

**A** Use this command:

```
locate waltop.sh
```

Then `cd` to its location.

**Q** I'm getting low disk space messages and understand there is a way to clean the disk up.

**A** (Thanks to *mojo706*, *oldfred* and *JoseeAntonioR* in the

Ubuntu Forums) Follow this tutorial:

<https://sites.google.com/site/easylinuxtipsproject/clean>

Also run these commands:

```
sudo update-grub
sudo apt-get autoremove
```

And read this Community Help lesson:

<https://help.ubuntu.com/community/RecoverLostDiskSpace>

**Q** How can I Hibernate in Xubuntu 12.04 LTS?

**A** (Thanks to *2F4U* in the Ubuntu Forums) Hibernation has been deactivated in Ubuntu 12.04. If you want to reactivate, follow the official guide: <https://help.ubuntu.com/12.04/ubuntu-help/power-hibernate.html>

**Q** I have installed Linux Mint Cinnamon 15; how can I get the software that I have paid for in

Ubuntu Software Center, so I can install it on Linux Mint?

**A** Install VirtualBox with the Extension Pack, install Ubuntu 12.04 in VirtualBox, download the programs you have paid for, copy the .deb files to a flash drive, install in Mint. Watch out for dependencies: `someprogram.deb` might require `thislib.deb`, `thatlib.deb`, `awholebunchoflibs.deb`.

**Q** Can anyone recommend a screen-capture and video tutorial creation tool?

**A** For screen capture, "recordmydesktop" is the most popular program. For video editing, I like Cinelerra, but it has a significant learning curve, and may be much more than what you need. "Cinelerra for Grandma" is the best site for learning about it.

**Q** I am running an FTP server and need to figure out how to restrict users to their directories.

**A** (Thanks to *LHammonds*) See: <http://www.hammondslegacy.com/forum/viewtopic.php?f=40&t=197>

**Q** I'm looking for a dedicated serial port terminal application.

**A** Minicom is a clone of Telix, the popular MS-DOS terminal program. Putty is another possibility.

**Q** Then, when I run the terminal program and choose a port, I'm told "Permission denied".

**A** `ls -l /dev/ttyUSB0` shows: `crw-rw---T 1 root dialout 188, 0 Feb 12 12:01 /dev/ttyUSB0`

So I run this command:

```
sudo adduser <username>
dialout
```

and reboot.



**Q** I tried to download source code for FCM's Python series, but the web site is about healthcare, not programming.

**A** Greg's site is a .net, not a .com.

**Q** I have a Dell Latitude D610 laptop running Xubuntu 12.04.2 LTS Precise Pangolin. I am having some trouble figuring out how to manually speed up my fan.

**A** (Thanks to **Toz** in the Ubuntu Forums) Have a look at this web site:  
<http://www.cyberciti.biz/faq/controlling-dell-fan-speeds-temperature-on-ubuntu-debian-linux/>

## THE TOP AND MOST ACTIVE QUESTIONS ON ASKUBUNTU

- \* Ubuntu 13.04 clean install over other ubuntu 13.04  
<http://goo.gl/hqJW3U>
- \* Kernel panic - not syncing: no init found. Try passing init=option to kernel

<http://goo.gl/3U217K>

- \* Uninstall Ubuntu and bring back Windows 7  
<http://goo.gl/gPxrZo>

- \* Cannot connect to wireless or wired network using Ubuntu 12.04 or 13.04  
<http://goo.gl/jNqoWp>

- \* How do I configure CUPS and change SAMBA setting for no printers?  
<http://goo.gl/UtzfSF>

- \* Find directories with lots of files in  
<http://goo.gl/ygaQSt>

- \* How can I remove python 2.7 after installing python 3.3?  
<http://goo.gl/ot4fow>

- \* How can I tell if all the hardware in my system has correctly installed drivers?  
<http://goo.gl/l68oDc>

- \* How to Install and Configure Wine  
<http://goo.gl/i1lDlZ>

- \* Can I use Ubuntu to diagnose hard drive or RAM problems in Windows?

<http://goo.gl/PO70jI>

- \* Chromebook: Map Search Key to ctrl, ubuntu  
<http://goo.gl/Ps6uOm>

- \* Touchscreen worked on "try without install" and now does not  
<http://goo.gl/TRFwmK>

- \* Unable to connect Galaxy Nexus to Ubuntu 12.04 through gMTP  
<http://goo.gl/qhbcL5>

- \* Linux power management issues  
<http://goo.gl/ubJf6T>

- \* Confused over which method to use to install?  
<http://goo.gl/Mirx4I>

- \* What is the command to minimize a terminal?  
<http://goo.gl/SXTpos>

- \* I can't use the terminal while gedit command is running  
<http://goo.gl/u4kUbk>

- \* What is Canonical's LTS support policy for EOL software?  
<http://goo.gl/0z9qb0>

- \* I downloaded an EPUB file, how can I get it from Ubuntu to my iPad?

<http://goo.gl/NNxpoi>

- \* Is there an easier or more 'correct' way to open gedit as root?  
<http://goo.gl/acAXns>

- \* Install 32-bit version of Oracle JDK 7 on a 64-bit Ubuntu?  
<http://goo.gl/rQTGgq>

- \* Can I simulate a button press on a web page from terminal  
<http://goo.gl/mmBLiv>

- \* Black Screen after boot menu Ubuntu 12 & 13?  
<http://goo.gl/cBOELI>

- \* Screen Brightness not adjustable for Acer Aspire S3  
<http://goo.gl/69IH4X>

- \* how can use lpc command with cups 1.4.3 in ubuntu 10.04?  
<http://goo.gl/kgI4rR>

- \* Why do I need to type `./` before executing a program in the current directory?  
<http://goo.gl/6E4pZw>

- \* What programming languages should I learn to become an Ubuntu developer?  
<http://goo.gl/u7ymM1>

\* Do you want to continue[Y/n]?

Why the upper case?

<http://goo.gl/sLiLua>

\* Ambiguity using "ls -l" and "file" commands on a file

<http://goo.gl/EuY9ql>

\* Prevent PC from shutting down on Power button

<http://goo.gl/fdCTDh>

\* How do I change the default logon screen in 12.04

<http://goo.gl/3LC2BW>

\* 12.04 and Asus 1015E problems

<http://goo.gl/DlTi0e>

## TIPS AND TECHNIQUES

### Lightweight?



I resurrected a nine-year-old computer this month. The old Compaq has an Athlon 3000+ CPU and 768 MB of memory, but the power supply was toast. When the motherboard of a friend's computer got fried, I was able to transplant his power supply into the Compaq, converting two dead computers into one which worked.

I have fooled around with Xubuntu on my main desktop PC, so I figured it was time to have a look at the latest Ubuntu, 32-bit 13.04. Once I installed Gedit and Nemo, I found it usable. It got high marks for its low memory usage and good overall performance.

There were a couple of problems, which I later ascribed to the hardware, but it was enough to move on. I couldn't get it to play Youtube videos because that CPU is no longer supported by the Adobe flash player!

What should I try next? Googling "lightweight linux" turned up Crunchbang, which I have heard a lot about. I installed it, but its kernel was ancient, and did not support my USB wireless adapter. Ubuntu 11.10 supported it!

Next on my list: Linux Mint 15, 32-bit with Mate. Still no Youtube, but most everything worked. The "videos" application could play downloaded .flv files, although the CPU was too slow to handle 720 by 480 H.264 without dropping frames, sometimes lots of frames. I installed Conky so I could see CPU and hard drive temperatures, CPU and memory usage, etc. Just

moving a window pushed the CPU. It used about twice as much memory as Ubuntu (or Crunchbang), but I could open a 50-page PDF and a couple of tabs in Chrome, and still stay below 400 MB of memory.

Banshee crashed; I assume it uses the SSE2 instructions (like Adobe Flash Player) which are not in that processor. "Videos" could play my music, and even a DVD. ("Videos" seems to be the Totem player.) The wireless connection also dropped a couple of times, but not so often as to be intrusive. Was it all sweetness and light? Not by a long shot. In addition to the minor problems, the system spontaneously rebooted several times, in ways I was not able to reproduce. A friend has no computer, and I was thinking she could use this one instead of going to the library when she wants to use email. It's just not solid enough to make a neophyte comfortable; I would spend too much time providing phone support.

Next was using the old computer as a testbed to fool around with Arch Linux. While I got a working command-line system running, everything I tried to make

Startx work failed. It produced a screen of output and announced that X had closed normally. Brrr.

Only one more option, the one I skipped over initially: Xubuntu. It also had problems, but I finally realized that all the problems happened in the first five minutes after pushing the power button. OK, it's a "cold joint" in some connector, which works fine once it has warmed up. It might even be the CPU socket, but I'm not about to remove the CPU cooler, re-seat the CPU, and re-install the CPU cooler.

Xubuntu works just great, and appears to use a bit less memory than Ubuntu. So now I have an old computer which works great if I give it five minutes to warm up, but it can't handle Youtube. Not my first choice of computers, but it's an OK backup.



After a long career in the computer industry, including a stint as editor of Computing Canada and Computer Dealer News, **Gord** is now more-or-less retired.







The Mana World (TMW) started back in 2004 with a desert and a handful of monsters, and has since turned into a mature anime-themed massively multiplayer world of several cities and hundreds of monster areas. What makes The Mana World special is the amount of active development and the community around it. For example: frequently, new items are introduced into the game around holidays - last Easter a couple of Egg-shell hats were introduced with a new quest. Events like this last a brief period of time, after which items become rare because they can only be sold character to character. Other more permanent quests and items are introduced from time to time, usually on a 4-8 month cycle, but sometimes faster.

As I hinted, The Mana World is a client/server based game, it's playable only by connecting a client to a server. I wrote about setting up a TMW server back in issue 57, but you don't need to set up your own server since there are lots of fine servers out there already. With many servers, you

can just run the manaplus client (<http://manaplus.org/>): connect and register for an account. This isn't true for the main server at [server.themanaworld.org](http://server.themanaworld.org) however. Because of account spamming, manual registration through the web site is required: <http://www.themanaworld.org/registration.php>

Ubuntu and other distributions

often have a version of the mana world client in the repositories. I prefer to always get the client directly from the manaplus site. Versions are also available for Mac OS X, Windows, and an Android beta (I ran it on a Pivos Xios DS media play once and it ran well enough to play via keyboard).

The Mana World team originally developed a client in parallel with

the server. However, for several years, many people found the game more enjoyable to play using an alternate client known as "4144's manaplus client"—which has since become the official client recommended by The Mana World team.

Once you've registered, connected and logged in, you'll have to create a character. Creating a character involves giving the character a name, changing the hair color and style, and assigning 24 stat points into Strength, Agility, Vitality, Intelligence, Dexterity or Luck. When starting out, you can assign only up to a maximum of 9 points to each stat. As you 'level' throughout the game, you gain more stat points to assign to any stat you desire. A nice balance for a new player is to assign 8 points into Strength, Vitality and Dexterity. This ensures you live for the first few levels.

Another unique thing about The Mana World is that professions are not really static. It's possible to stat up for one profession, learn all





the skills with that profession, then change professions and skills later. Typically, many players play a fighter-style character for the first 30 levels or so, and then switch to an archer class, which places a heavy emphasis on Dexterity and Agility (for speed). At higher levels, players will often create hybrid classes such as archer/mage in order to heal themselves (because archers tend to be weak, but kill rapidly) and others.

When you first start out on the main server, you'll notice yourself standing almost naked beside Sorfina, a grey-haired woman. The story goes: you've been on a boat, and collapsed, and a group of thieves made off with your clothes. This is the start of a loose tutorial you should follow in order to learn some of the game basics: talking to people (NPCs), and items (opening the chest for example). When you talk to Sorfina (right click on her), you'll be asked to choose your language and she'll read you the riot act (I mean the server rules). The server rules consist of the standard: no botting (running scripts to do all the work for you), treat others with respect, no begging, speak English in town (other servers may allow other

languages in town and other languages are allowed outside of town), and a handful of other rules.

In this first quest, Sorfina asks you to simply walk over to the red

carpet using the arrow keys on your keyboard (you can use a mouse too, but my experience is the game is so keyboard heavy that it's best just to use the keyboard for most tasks). Next, Sorfina

unlocks the chest behind her and asks you to press N (next) to change focus of who you're talking to and talk to the chest by pressing T (talk). When you talk to the chest, you'll see you receive some



ragged shorts. Any items you get from other sources (like chests), or from monsters, go into your invisible backpack. You have to equip an item in order to use it. The F3 hotkey opens up your backpack/inventory window where you can equip/unequip/drop items. Take special note of the buttons at the top-right of the screen, the button labelled INV does the same inventory function as the F3 key. Another button you'll want to explore right away is the SET (F9) SETUp button. Click on the setup button, then click on the Input tab near the top of the window which appears: you'll see several tabs full of keyboard commands (over 100). Don't be overwhelmed, many are simply quick ways to do useless things like display certain smilies, but a few are quite useful (z to pick up monster item drops, for example).

Once you've equipped the Cotton shirt and shorts in your inventory, it's time to move on. As you go to leave, you'll be stopped. Press N to focus back on Sorfina again and talk to her once more; she'll tell you to talk to her granddaughter in the building south-east of the building you're in. She also mentions something

about an Aidan fellow, and rewards for monster hunting. Aidan is someone you should definitely see early in the game. Once you've progressed beyond the basic tutorial, and moved into the city of Tulumshar, see Aidan early in order to start to accumulate what are called "monster points." If you go killing a lot of monsters without talking to Aidan, you will not accumulate monster points and will miss out on items given out by a lady named Ishi (she stands right beside Aidan) that can be quite useful even when you reach level 90+ (chicken legs and the Illia sisters quest). For now, you won't be able to get to Aidan until you've completed the basic quests, so go find Tanisha in the building to the south-east (you'll pass another NPC named Liana - not all NPCs do something helpful/useful). Talk to Tanisha once you find her, she'll start you on a quest to kill maggots, and reward you with a knife once you've completed it. Before you attack the maggots, don't forget to press F3 and equip the knife Tanish gives you. Completing this first quest will also gain you a new level (or two). Press the F2 key after to increase your statistics. I usually increase Dex and Strength at this point.

For every 10 points in a statistic, other things are affected. Off to the right of the main statistics you'll see other statistics such as Attack, Defense, % Accuracy, % Evade, % Critical, and Damage per second, to name a few. Before progressing too far, you may want to check out The Mana World wiki: <http://wiki.themanaworld.org/index.php>. The wiki outlines almost all the quests. You might think the wiki is a walk through the quests, and it is in a sort of a way, but it never tells you the precise location of all the quests, and you won't really know how difficult the monsters/quests are until you actually try them.

Some quests involve knowledge of things like color theory, others involve giving up a certain amount of items to make other items, and still other items killing some boss (or killing enough bad guys and gathering their drops). One of the enjoyable aspects of TMW is not everything is about killing (though Candor is a slaughter fest); many quests involve finding an item or items. The Easter quest last year involved running around looking for loot under Easter eggs (difficult to do when there are 100

other people looking at the same time, and the eggs disappear after a certain amount of peeks).

Around level 20 you'll want to see the NPC named Luca to get a handle on "skills." Most skills won't be available until you see the appropriate NPC and complete the appropriate quest. Each skill has a quest or quest(s) tied to it. Some skills require a certain amount of statistics or level before you can attempt the skill. Again, visiting the wiki can help with skills.

Eventually you'll start to accumulate items. As previously mentioned, some items become "unobtainable," meaning you can get the items only from other players. Other items are rare because they're obtainable only by high level characters (90+). Some items are totally useless, but still fetch a high price because they're not available anymore. A number of players have huge collections of items collected over several years.

Part of the fun of The Mana World is the social aspect. Many higher level players just sit in town (usually Hurnscald, a town to the west of the starting town of Tulumshar), and chat, or wait for



events either created by GMs or spawned by players. Candor is one such event that takes place in a cave on an island. For a fee, an NPC will unleash over 20 waves of monsters, some of which are the toughest in the game. It takes 5 players to start a Candor event, but success is achieved usually with at least 10 or more. At the end of all the waves, survivors receive “boss points” which can be traded in for special items (currently only a beanie cap).

Earlier, I mentioned classes and alluded to the fact that players play hybrid classes. The basic classes of players are warriors, archers and mages, though there isn't really a strict class system—it depends more on how your player is stated and what skills you've obtained. Each class has strengths and weaknesses. Mages, for example, can cast wicked lightning, some doing over 1,000 points of damage (with the correct equipment), but they cannot wear metal. Warriors can suit up in very highly-defensive metal, but this makes them very prone to mage's lightning attacks in PvP (Player versus Player). Archers are blazingly fast, and do huge damage per second at high levels,

but also can't wear the best armor without suffering penalties.

And yes, Player versus Player is a component you will eventually have to come to grips with. Many players prefer cooperative play to PvP, but there are a couple of PvP designated areas. In one of these areas lies the key (not a literal key, but monsters that drop items

required) to getting one of the best suits of armor (pants, top, hat). If you don't like PvP, buddy up with a powerful friend or friends, or join one of the mana world guilds (Google it).

I've watched this game on and off since 2004, and it's evolved at a remarkable rate. What makes it really interesting is the fact that

content is being developed all the time. Game play is a bit too slow for some people, especially at the beginning, but it does change as you progress. Some players are willing to help new players (provided they don't beg) with particular quests or obtaining particular items.

If you're into MMORPGs, and don't mind 2D graphics, The Mana World is a good game to check out.

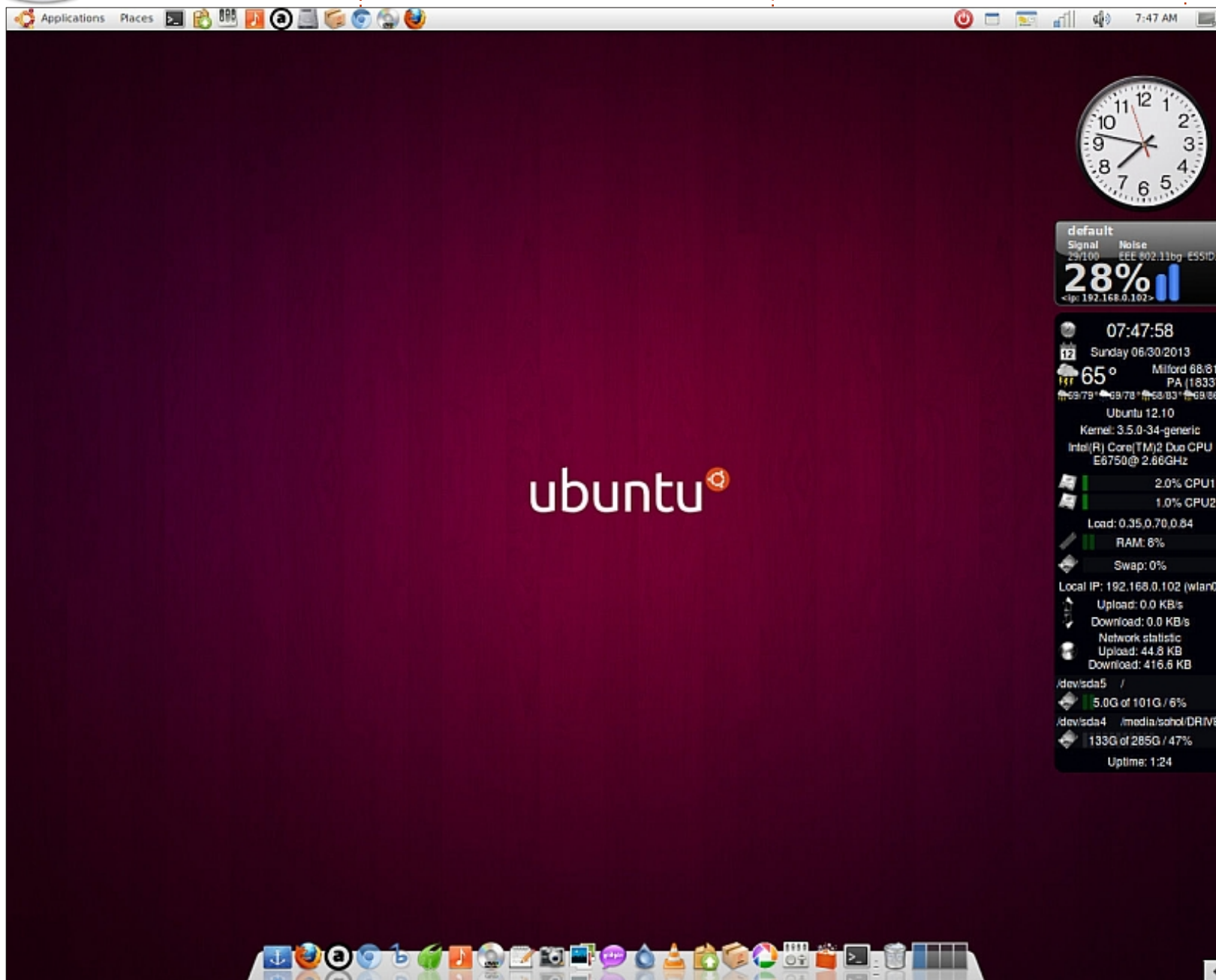


**Charles McColm** is the author of *Instant XBMC*, a short book on installing and configuring XBMCbuntu, a \*buntu+XBMC distribution. Charles is the project manager of a not-for-profit computer reuse project. When not building PCs, removing malware, encouraging people to use Linux, and hosting local Ubuntu hours, Charles blogs at <http://www.charlesmccolm.com/>.



# MY DESKTOP

Your chance to show the world your desktop or PC. Email your screenshots and photos to: [misc@fullcirclemagazine.org](mailto:misc@fullcirclemagazine.org) and include a brief paragraph about your desktop, your PC's specs and any other interesting tidbits about your setup.



I have been using Ubuntu since 2008.

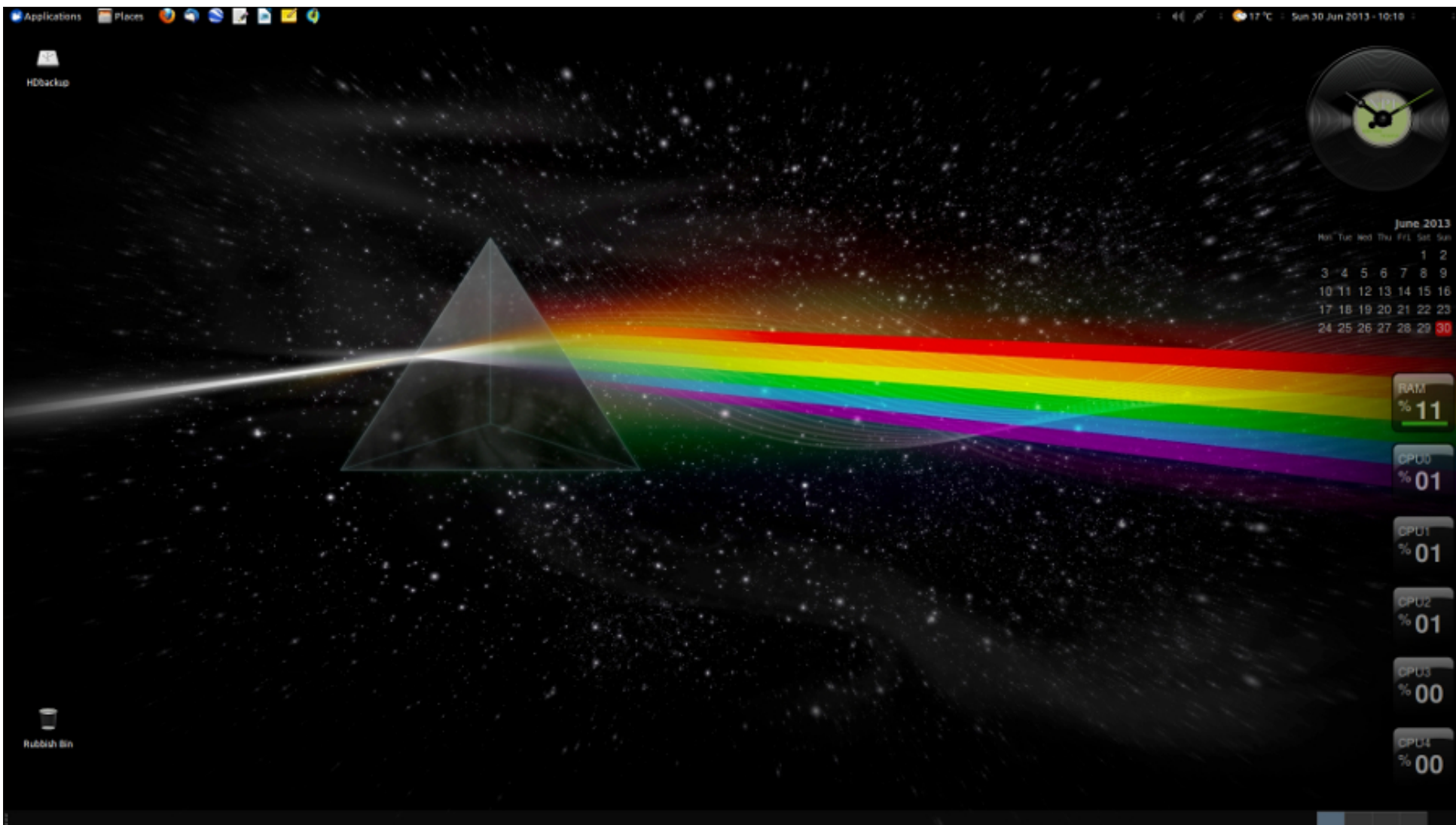
I am running Ubuntu 12.10 with the Gnome Classic Shell with Dockey, Greybird theme, Pidgin, Deluge, Picasa, Wine, Beatbox and Audacious Music Players, and Screenlets.

My PC is a Dell Optiplex Intel Core2 Duo 6750 with 4GB memory and 750GB Samsung hard drive.

Monitor is a Dell P1130 21" CRT running at 1280 x 1024.

**Jim Nagy**





I'm using Xubuntu 13.04 with XFCE 4.10. I loved the old Gnome 2, so, as much as possible, I've used XFCE to re-create that. I use Greybird as my theme, but not the new version in 13.04 - I got the old version from 12.04 as it makes drop-down menus nice and dark, then I add

transparency to them.

I use a few Screenlets - CPU and RAM meters, a calendar, and a clock that resembles a vinyl record.

The wallpaper is obviously a re-working of Pink Floyd's Dark Side Of

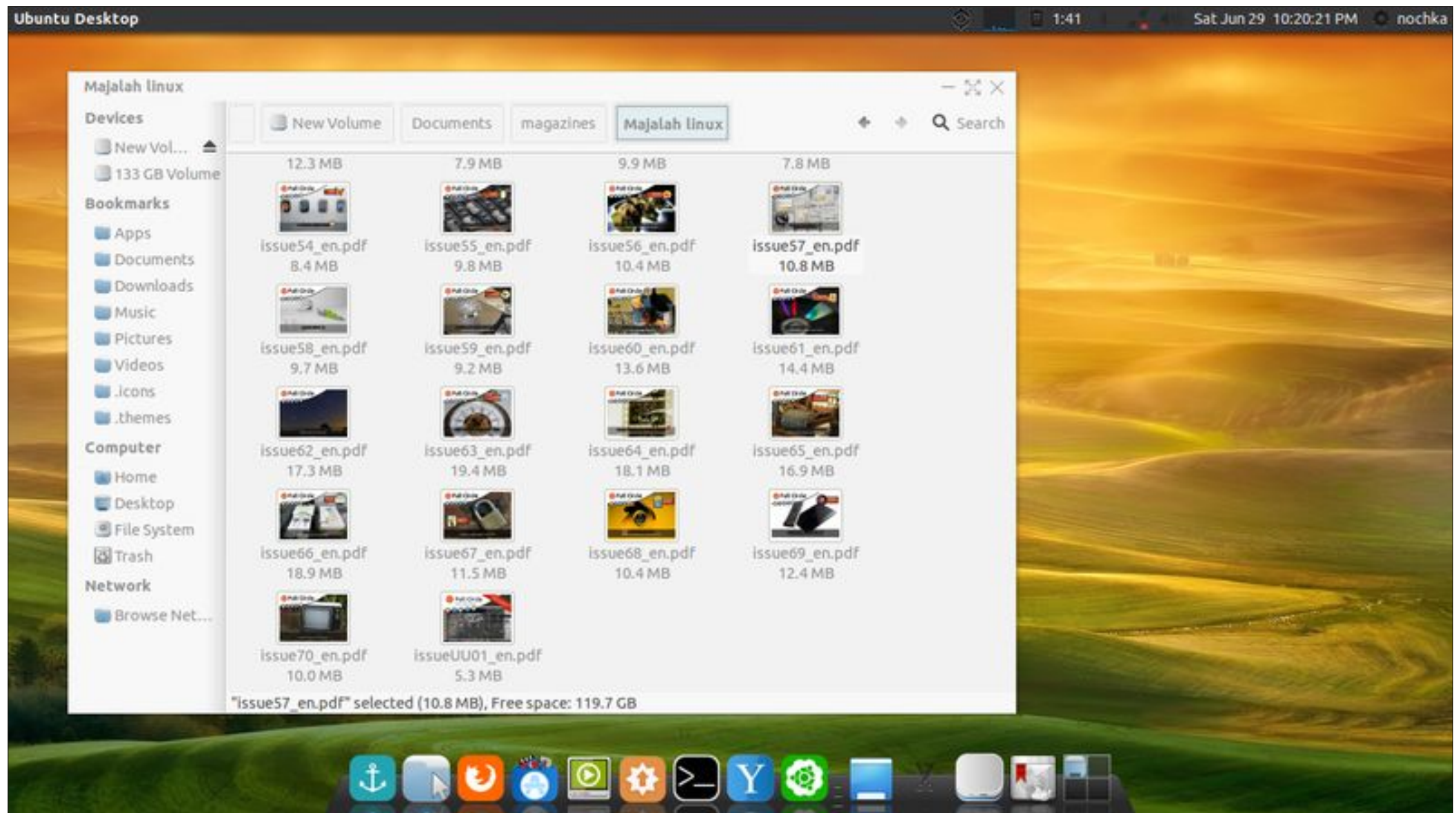
The Moon.

#### Specs:

CPU: AMD Bulldozer FX-4100 Quad Core @ 3.6GHz  
Graphics Card: NVidia GT430  
Motherboard: Asus M5A78L-M LX  
RAM: 8GB DDR3

Hard-drive: Western Digital Green 1TB SATA2 (not really fast but sooo quiet!)

**David Wright**



This is my laptop. a Samsung 370R4V running Ubuntu 12.10 32-Bit (also dual-booting with Windows 7 Ultimate).

My laptop's specifications are:

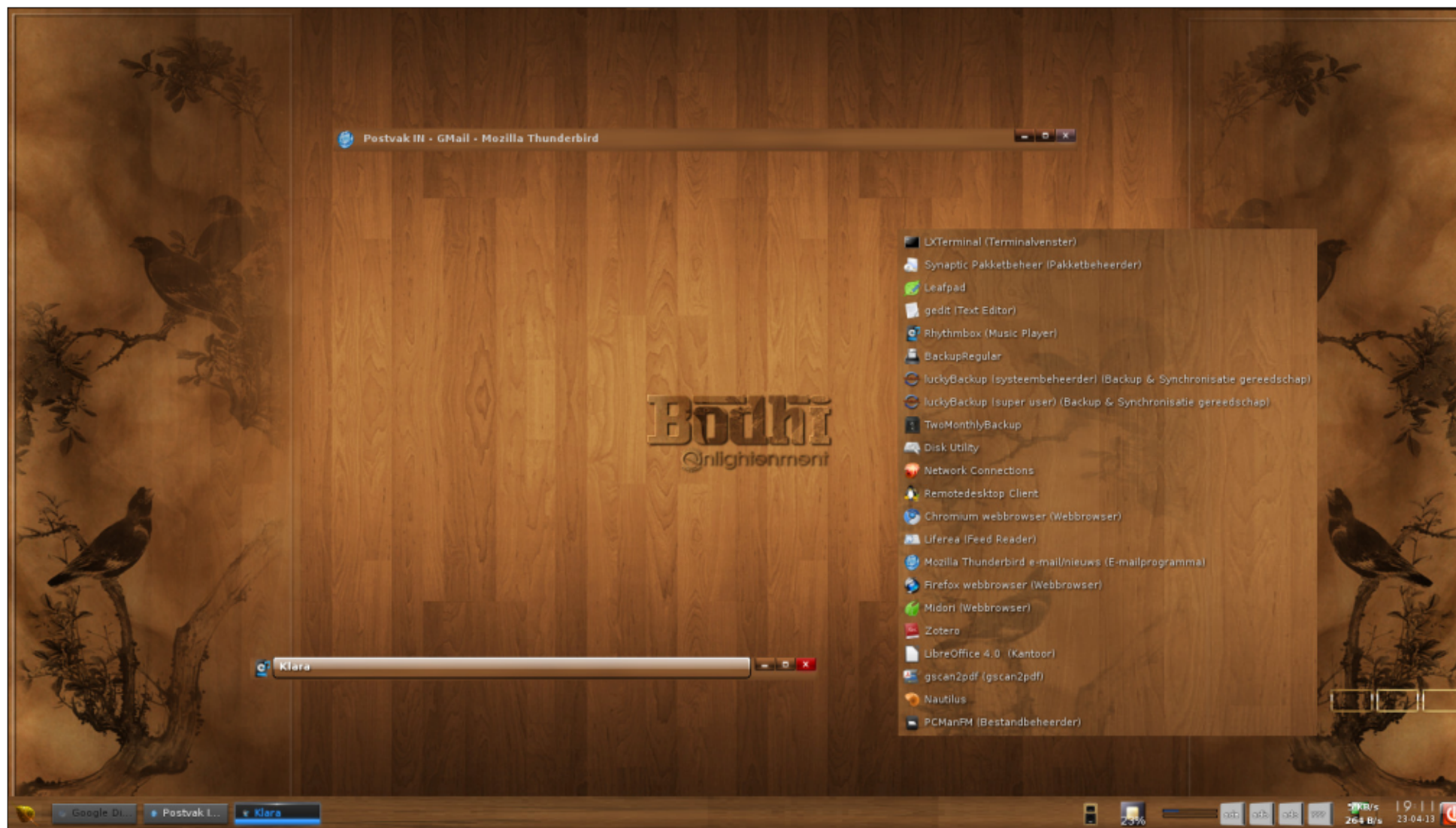
Processor: Intel Pentium 997 (1.6 GHz) dual core  
Resolution: 1368 x 768 (14")  
Storage: 500 GB  
RAM: 3.8 GB

And my desktop uses:  
Desktop environment: Unity with Docky  
GTK3 theme: 'Plane' by wfpaisa  
Icon theme: 'Potenza' by Mystras team

Wallpaper: HTC One wallpaper by EgFox

**Annisa Rifa Zulkania**





Since 2010 I have used Ubuntu and derivatives (Mint, Lubuntu, ...) and I love them all. I have a special interest in turning older hardware into an updated though productive state. That brought me to Bodhi Linux, thanks to the review by Art Shreckengost in FCM#59. My main

desktop now mostly runs this distro, which uses Enlightenment as its desktop manager. It runs very snappy on this nine year old machine.

#### Specs:

mobo: ASRock K7VT4A+

CPU: AMD Athlon XP 2800+ (2082 MHz) - single core

RAM: 1 GB

Graphics Card: Radeon 9200 SE

2 ATA hard disks: 75 GB + 150 GB

OS: Bodhi Linux 2.3.0 (running kernel 3.7.0-7-generic)

Theme: Nogal-Bodhi, plus a few

elements from other themes

On the screenshot is my personal list of favourite programs (by right-clicking the desktop)

**Floris Vanderhaeghe**



# HOW TO CONTRIBUTE

## FULL CIRCLE NEEDS YOU!

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### FCM#77

#### Deadline:

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#### Release:

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